

# NEC

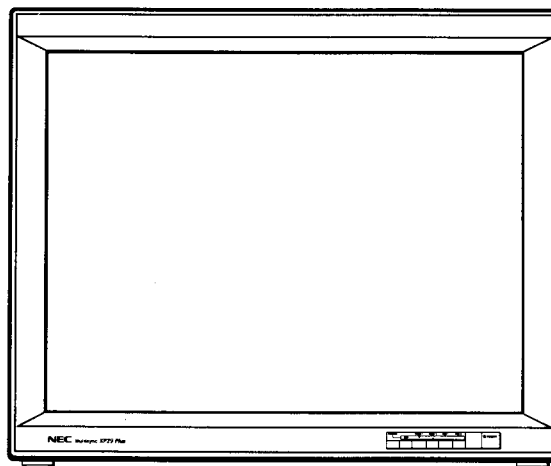
MODEL XP-2990  
XM-2960  
XP-2990G  
XM-2960G

MultiSync Multimedia Monitor  
**SERVICE MANUAL**

PART No. 399910914



**Better Service**  
**Better Reputation**  
**Better Profit**



**SAFETY CAUTION:**

Before servicing this chassis, it is important that the service technician read and follow the "Safety Precautions" and "Product Safety Notice" in this Service Manual.

**WARNING:**

SHOCK HAZARD - Use an isolation transformer when servicing.

**NEC Corporation**

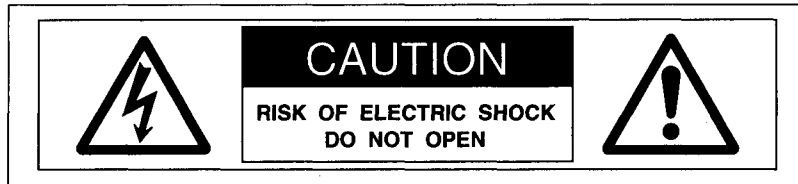
TOKYO, JAPAN

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# SAFETY PRECAUTIONS



**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN TOP COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol warns the user that un-insulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.



**ATTENTION:** POUR EVITER LES RISQUES D' ELECTROCUTION, NE PAS ENLEVER LE CONVERCLE SUPERIEUR. AUCUN DES ELEMENTS INTERNES NE DOIT ETRE REPARÉ PAR L'UTILISATEUR. NE CONFIER L' ENTRETIEN QU'A UN PERSONNEL QUALIFIE.



L'éclair fléché dans un triangle équilatéral est destiné à avertir l'utilisateur de la présence, dans l'appareil, d'une zone non-isolée soumise à une haute tension dont l'intensité est suffisante pour constituer un risque d'électrocution.



Le point d'exclamation dans un triangle équilatéral est destiné à attirer l' attention de l'utilisateur sur la présence d'informations de fonctionnement et d'entretien importantes dans la brochure accompagnant l'appareil.

## SAFETY PRECAUTIONS

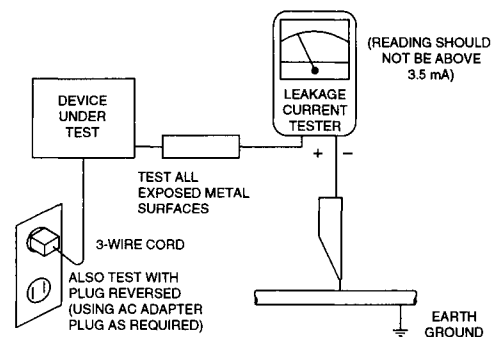
1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items.

a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such opening include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. **Leakage Current Hot Check** — With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institutes (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1950. With the instrument AC switch first in the ON position and then in the OFF position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screwheads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 3.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat test. **ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER.**



### AC Leakage Test



2. Read and comply with all caution and safety-related notes on or inside the Projection Monitor cabinet, on the Projection Monitor chassis, or on the picture tube.

3. **Design Alteration Warning** — Do not alter or add to the mechanical or electrical design of this unit. Design alterations and additions, including, but not limited to, circuit modifications and the addition of the items such as auxiliary audio and/or video output connections might alter the safety characteristics of this Projection Monitor and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and will make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Hot Chassis Warning** — a. Some MultiSync Monitor chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground. b. Some Projection Monitor chassis normally have 85V AC (RMS), between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. c. Some Projection Monitor chassis have a secondary ground systems in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground system are electrically separated by insulating material that must not be defeated or altered.

5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas:
  - a. near sharp edges,
  - b. near thermally hot parts—be sure that leads and components do not touch thermally hot parts,
  - c. the AC supply,
  - d. high voltage, and
  - e. antenna wiring.Always inspect in all areas for pinched, out-of-place, or frayed wiring. Do not change spacing between components, and between components and the printed-circuit board. Check AC power cord for damage.
6. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
7. **PRODUCT SAFETY NOTICE** —Many MultiSync Monitor electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in this service data by shading with a  mark on schematics and by shading or a  mark in the parts list. Use of a substitute replacement part that does not have the same safety characteristics as the recommended replacement part in this service data parts list might create shock, fire, and/or other hazards.

# PRECAUTIONS DE SECURITE

1. **Avant de remettre un appareil à un client**, faire toujours d'abord un examen de sécurité de l'appareil en entier comprenant, mais ne s'y limitant pas les points cités ci-dessous:

a. Vérifier qu' aucun des dispositifs de protection ne soit défectueux ou n' ait été endommagé pendant les travaux.

(1) Les volets protecteurs sur ce châssis ont été montés pour protéger aussi bien le technicien que le client. Remplacer correctement tous les volets protecteurs manquants, aussi bien que ceux qui ont pu être enlevés pour la commodité des travaux.

(2) Quand vous remettez le châssis ou d'autres assemblages ensemble dans le coffret, vérifier qu' ont été remis à leur place tous les dispositifs de protection, comprenant mais ne s' y limitant point, les boutons de contrôle non-métalliques, les feuilles d'isolation, les couverture/volets de l'ajustement et du compartiment, et l'isolation des réseaux résistance/condensateur. **Ne pas travailler sur cet appareil ni permettre qu'y soit effectué un travail sans que tous les dispositifs de protection n' y soient correctement installés fonctionnants.**

b. Bien vérifier qu'il n'y ait aucune ouverture sur le coffret qui ne puisse permettre à un adulte ou à un enfant d'y faire pénétrer ses doigts et attraper une décharge électrique.

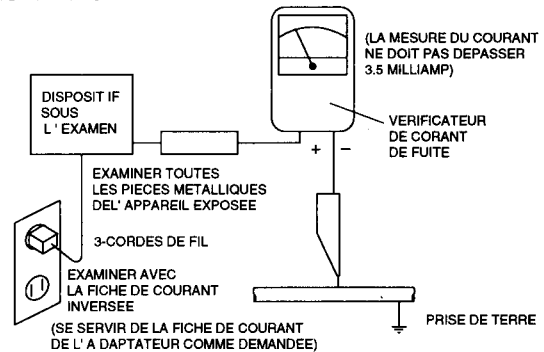
De telles ouvertures comprendraient sans pour autant s'y limiter (1) l'espace entre le tube à images et le coffret de l'appareil, (2) les espaces excessivement ouverts pour la ventilation et (3) la couverture arrière du coffret improprement fixée ou incorrectement protégée.

c. **Vérification de courant de fuite**

L'appareil ayant été complètement réassemblé, brancher-le à une prise de courant de 120V. (Ne pas se servir d'un transformateur d'isolation pendant ce test). Se servir d'un vérificateur de courant d'excitation ou d'un système de mesure conforme aux normes ANSI (American National Standards Institute) C101.1 Leakage Current for Appliances et U. L (Underwriters Laboratories) 1950. Le bouton de l'appareil en position "Marche" et ensuite en position "Arrêt", mesurer à partir d'une prise de terre (métallique tuyauterie, conduite, etc...) à toutes les pièces métalliques de l'appareil exposées (antennes, poignet métalliques, coffren métallique, tête des vis, surfaces métalliques, traits de contrôle, etc.) surtout à toutes les pièces métalliques exposées qui peuvent reconduire le courant au châssis. En

aucun cas, la mesure du courant ne doit dépasser 3.5 milliamp. Inverser la fiche de courant de l'appareil dans la prise et répéter le test. **Tout mesurage ne s'arrêtant pas aux limites spécifiées icomporte un risque de décharge électrique dangereux, qui doit être éliminé, avant que l'appareil ne soit remis au client.**

## EXAMEN DE COURANT D'EXCITATION





2. **Lire et respecter** toutes les mises en garde et notes de sécurité à l'intérieur ou à l'extérieur du coffret du rétro-projecteur, sur le châssis du rétro-projecteur ou sur le tube à images.

3. **Mise en garde contre la modification du dessin**  
Ne pas modifier ni ajouter à la pièce mécanique ou électrique du modèle. Des modifications ou additions, comportant, mais ne s'y limitant pas, des modifications des circuits et l'addition d'éléments tels que des auxillaires audio et/ou des branchements pour la prise de vidéo, pourrait éprouver la sécurité de ce rétro-projecteur et créer un risque pour l'utilisateur. Tout changement ou addition accomplie annulera la garantie du fabricant et va rendre votre service d'entretien, responsable des dommages corporels ou de biens en résultant.

4. **Mise en garde contre le châssis sous tension**

a. Certains châssis de rétro-projecteur sont électriquement reliés à un conducteur du fil de courant et ainsi peuvent ne comporter aucun risque sans un transformateur d'isolation seulement si la prise de courant est branchée, de manière que le châssis est relié à la prise de terre de la source de courant. Pour s'assurer que la prise de courant est correctement insérée, relever les mesures avec un voltmètre de courant entre le châssis et un point de prise de terre bien connu. Si le voltage indiqué est supérieur à 1,0V, débrancher et reinsérer la prise de courant dans la polarité contraire et une fois de plus remesurer le voltage potentiel entre le câssis et la prise de terre.

- b. Certains châssis de moniteur ont habituellement 85V (RMS) entre le châssis et la prise de terre, en fonction de la polarité de la prise de courant. Ces châssis peuvent ne comporter aucun risque seulement avec un transformateur d'isolation inséré dans la ligne de puissance située entre de rétro-projecteur et la source d'électricité, cela pour la protection aussi bien du personnel que du matériel de vérification.
  - c. Certains châssis de rétro-projecteur ont un système secondaire de masse en addition avec le système principal de masse du châssis. Ce système secondaire de masse n'est pas isolé du courant électrique. Les deux systèmes sont électriquement séparés par du matériel d'isolation qu' on vérifiera bien qu'il ne soit ni altéré ni défectueux.
5. Vérifier la couverture originale en plomb. Accorder la plus grande attention à la couverture de plomb notamment aux endroits ci-dessous indiqués.
- a. Près des bords aigus
  - b. près des parties très chaudes  
Vérifier que les composants et les plombs ne touchent pas les parties très chaudes telles que:
  - c. l'alimentation du courant
  - d. la haute tension
  - e. les fils de l'antenne
- Pousser l'inspection, à tous les endroits, à la recherche des cordes pincées, déplacées ou effilochées. Ne pas changer l'écartement entre composants, et entre composants et le tableau de circuit imprimé. Vérifier que le fil de conduite électrique est en bon état.
6. Les composants, parts (pièces) et/ou fils qui ont été trouvés surchauffés devraient être remplacés avec les composants, pièces et fils s'y reliant avec d'autre qui ont les mêmes spécifications que les originales. De plus, rechercher la cause du surchauffement et/ ou des dommages et si nécessaire, prendre les mesures propres pour prévenir tout risque potentiel.
- 7. Note sur sûreté de l'appareil**
- Beaucoup de pièce de rétro-projecteur, qu'elles soient électriques ou mécaniques, ont des dispositions de sécurité qui ne sont pas toujours évidentes d'une simple inspection visuelle et la protection qu'elles donnent nécessairement ne pourront être pas obtenues par les remplaçants avec des composants aux voltages ou watts plus élevés. Les pièces qui ont des caractéristiques particulières de sécurité sont identifiées avec un trait  marqué sur les schémas et sont ombragés ou comportent un trait  sur la liste des pièces. L'utilisation d'un produit substitutif qui n'aurait pas les mêmes caractéristiques comme il est recommandé dans ces données d'entretien pourrait provoquer une décharge électrique, un feu, et/ou d'autres dangers.

# OPERATION MANUAL

<b>CAUTION</b>		
	<b>RISK OF ELECTRIC SHOCK DO NOT OPEN</b>	
<p><b>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</b></p>		
	<p>This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside of this unit.</p>	
	<p>This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.</p>	
<b>WARNING</b>		
<p>TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS, UNLESS THE PRONGS CAN BE FULLY INSERTED. REFRAIN FROM OPENING THE CABINET AS THERE ARE HIGH-VOLTAGE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		

## Warnings and Safety Precaution

The NEC MultiSync Multimedia monitors XP29 Plus and XM29 Plus are designed and manufactured to provide long, trouble-free service. No maintenance other than cleaning is required. Use a soft cloth and if necessary, mild detergent. Do not use commercial spray cleaners which may damage the surface. In case of damage, arrange for repairs at an authorized NEC Service Center.

For operating safety and to avoid damage to the unit, read carefully and observe the following instructions.

To avoid shock and fire hazards:

1. Provide adequate space for ventilation to avoid internal heat build-up. Do not cover rear vents or install in a closed cabinet or shelves. The unit is equipped with cooling fans on the top. If you enclose the unit in a cabinet or rack, be sure there is adequate space at the top of the unit to allow heated air to rise and escape. A cabinet or shelves in which the unit is placed must be maintained below 40°C.
2. Do not use the power cord polarized plug with extension cords or outlets unless the prongs can be completely inserted.
3. Do not expose unit to rain or moisture.
4. Avoid damage to the power cord, and do not attempt to modify the power cord.
5. Unplug unit during electrical storms or if unit will not be used over a long period.

## DOC compliance Notice

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

## WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

6. Do not open the cabinet which has potentially dangerous high voltage components inside. If the unit is damaged in this way the warranty will be void. Moreover, there is a serious risk of electric shock.
7. Do not attempt to service or repair the unit. NEC is not liable for any bodily harm or damage caused if unqualified persons attempt service or open the back cover. Refer all service to authorized NEC Service Centers.

To avoid damage and prolong operating life:

1. Use only with 100-120V/220-240V 50/60Hz AC power supply. Continued operation at line voltages other than 100-120V/220-240 Volts AC will shorten the life of the unit, and might even cause a fire hazard.
2. Handle the unit carefully when moving and do not drop.
3. Locate set away from heat, excessive dust, and direct sunlight.
4. Protect the inside of the unit from liquids and small metal objects. In case of accident, unplug the unit and have it serviced by an authorized NEC Service Center.
5. Unplug unit before cleaning. Use only a soft cloth and mild detergent. Commercial household sprays and cleaners may damage the CRT surface and cabinet.
6. Stacking of units, one top of another, may result in damage to the units. Stacking is not recommended.



**ATTENTION**

**RISQUE D'ELECTROCUTION  
NE PAS OUVRIR**

**MISE EN GARDE:** AFIN DE REDUIRE LES RISQUES D'ELECTROCUTION, NE PAS DEPOSER LE COUVERCLE, IL N'Y A AUCUNE PIECE UTILISABLE A L'INTERIEUR DE CET APPAREIL. NE CONFIER LES TRAVAUX D'ENTRETIEN QU'A UN PERSONNEL QUALIFIE.

Ce symbole a pour but de prévenir l'utilisateur de la présence d'une tension dangereuse, non isolée se trouvant à l'intérieur de l'appareil. Elle est d'une intensité suffisante pour constituer un risque d'électrocution. Eviter le contact avec les pièces à l'intérieur de cet appareil.

Ce symbole a pour but de prévenir l'utilisateur de la présence d'importantes instructions concernant l'entretien et le fonctionnement de cet appareil. Par conséquent, elles doivent être lues attentivement afin d'éviter des problèmes.

**AVERTISSEMENT**

AFIN DE REDUIRE LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE. AUSSI, NE PAS UTILISER LA FICHE POLARISEE AVEC UN PROLONGATEUR OU UNE AUTRE PRISE DE COURANT SAUF SI CES LAMES PEUVENT ETRE INSEREES A FOND. NE PAS OUVRIR LE COFFRET. DES COMPOSANTS HAUTE TENSION SE TROUVENT A L'INTERIEUR. LAISSER A UN PERSONNEL QUALIFIE LE SOIN DE REPARER CET APPAREIL.

## DOC avis de conformation

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.

### Mises en garde et précautions de sécurité

Les moniteurs MultiSync Multimédia XP29 Plus et XM29 Plus de NEC ont été conçus et fabriqués pour assurer une longue durée de service sans problèmes. Aucun entretien à l'exception du nettoyage n'est nécessaire. Utiliser un chiffon doux et un détergent doux, si nécessaire. Ne pas utiliser des aérosols de nettoyage du commerce qui risquent d'endommager la surface de cet appareil. Si l'appareil est endommagé, confier les travaux de réparation à un centre de service agréé NEC.

Pour un fonctionnement sûr et afin d'éviter d'endommager l'appareil, lire attentivement et respecter les instructions suivantes.

Afin d'éviter tout risque d'électrocution et d'incendie:

1. Réserver un espace libre suffisant pour la ventilation afin d'éviter une accumulation de chaleur interne. Ne pas couvrir les trous d'aération arrière ou installer l'appareil dans un coffret fermé ou sur une étagère. L'appareil est équipé d'ailettes de refroidissement sur le dessus. Si l'appareil est logé dans un coffret ou sur une étagère, s'assurer qu'il y a un espace libre suffisant pour la dissipation de la chaleur. Si l'appareil est posé sur un coffret ou une étagère, la température doit être maintenue en dessous de 40°C.
2. Ne pas utiliser la fiche polarisée du cordon d'alimentation avec des prolongateurs ou des prises de courant, sauf si les lames peuvent être insérées à fond.
3. Ne pas exposer à la pluie ou à l'humidité.
4. Eviter d'endommager le cordon d'alimentation, et ne pas modifier le cordon d'alimentation.

5. Débrancher l'appareil pendant les tempêtes ou si l'appareil n'est pas utilisé pendant une longue période.
6. Ne pas ouvrir le coffret. Des composants de haute tension se trouvent à l'intérieur. Si l'appareil est endommagé de cette manière, la garantie devient caduque. De plus, il y a un risque d'électrocution.
7. Ne pas essayer de réparer ou entretenir l'appareil soi-même. NEC ne saura être tenu pour responsable pour toute blessure ou dommage causé par des personnes non qualifiées qui essaient de réparer ou d'ouvrir le couvercle arrière. Confier toute réparation à un centre de service agréé NEC.

Pour éviter des dommages et prolonger la durée de service de l'appareil:

1. N'utiliser qu'une source d'alimentation de 100-120 V/220-240V 50/60 Hz CA. Le fait d'utiliser l'appareil en continu à des tensions de ligne supérieures à 100-120/220-240 Volts CA réduit sa durée de vie et risque de provoquer un incendie.
2. Manipuler l'appareil avec soin pendant son déplacement et ne pas le faire tomber.
3. Eloigner l'appareil des endroits chauds, très poussiéreux et exposés en plein soleil.
4. Eviter que des liquides et des petits objets métalliques pénètrent à l'intérieur de l'appareil. En cas d'accident, débrancher l'appareil et le confier à un centre de service agréé NEC.
5. Débrancher l'appareil avant le nettoyage. Utiliser seulement un chiffon doux et un détergent doux. Des aérosols et produits de nettoyage disponibles dans le commerce risquent d'endommager l'écran et le coffret.
6. Ne pas empiler les unités les unes sur les autres, afin d'éviter de les endommager.

## LIMITED WARRANTY

### NEC Multimedia Monitor Products

NEC Technologies, Inc. (hereafter NECTECH) warrants this product to be free from defects in material and workmanship under the following terms.

#### HOW LONG IS THE WARRANTY

Parts and labor are warranted for (1) One Year and CRT's for (1) One Year from the date of the first customer purchase.

#### WHO IS PROTECTED

This warranty may be enforced only by the first purchaser.

#### WHAT IS COVERED AND WHAT IS NOT COVERED

Except as specified below, this warranty covers all defects in material or workmanship in this product. *The following are not covered by the warranty:*

1. Any product which is not distributed in the U.S.A. Canada, and Mexico by NECTECH or which is not purchased in the U.S.A. Canada, and Mexico from an authorized NECTECH dealer.

If you are uncertain as to whether a dealer is authorized, please contact NECTECH at 800-836-0655. Any questions or problems you have with our XP29Plus/XM29Plus, contact NECTECH at 800-836-0655.

2. Any product on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
  - Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature.

of the problem(s). Failure to comply with NECTECH Service Procedures may cause a delay in repairing the unit.

3. For the name of the nearest NECTECH authorized service center, call NECTECH at 800-836-0655.

#### LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

#### EXCLUSION OF DAMAGES

NECTECH's liability for any defective product is limited to the repair or replacement of the product at our option. NECTECH shall not be liable for:

1. Damage to other property caused by any defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or
2. Any other damages whether incidental, consequential or otherwise. Some states do not allow limitation on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

unauthorized product modification, or failure to follow instructions supplied with the product.

- Repair or attempted repair by anyone not authorized by NECTECH.
  - Any shipment of the product (claims must be presented to the carrier).
  - Removal or installation of the product.
  - Any other cause which does not relate to a product defect.
  - Burns or residual images upon the phosphor of the tubes.
4. Cartons, carrying cases, batteries, external cabinets, magnetic tapes, or any accessories used in connection with the product.

#### WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items, but we will not pay for the following:

1. Removal or installation charges.
2. Costs of initial technical adjustments(set-up), including adjustment of user controls. These costs are the responsibility of the NECTECH dealer from whom the product was purchased.
3. Payment of shipping charges.

#### HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on your product, consult the dealer from whom you purchased the product, or ship it prepaid to any authorized NECTECH service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing, your name, address and a description

#### HOW STATE LAW RELATES TO THE WARRANTY

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

FOR MORE INFORMATION, TELEPHONE 800-836-0655

NEC TECHNOLOGIES, INC.  
1250 N. Arlington Heights Road, Suite 500  
Itasca, Illinois 60143-1248

*NOTE: All products returned to NECTECH for service MUST have prior approval. To get approval, call NEC Technologies at 800-836-0655.*

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This manual covers both the XP29 Plus and the XM29 Plus multimedia monitors. The operating procedures are common to both models.

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## Introduction

### Introduction to the MultiSync XP29 Plus/XM29 Plus Monitor

This section introduces you to your new MultiSync XP29 Plus/XM29 Plus monitor, provides a list of materials that comes with your monitor and describes the features and controls.

#### The features you'll enjoy include:

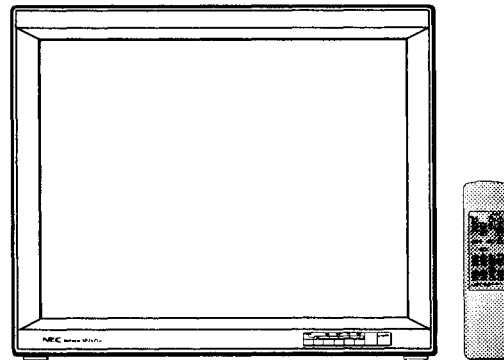
- Simple controls  
Let you make all necessary adjustments and selections with one button simplicity from the remote control.
- 29" CRT(27" viewable image size)
- True displayable 1024 x768 resolution

#### Contents of the Package

The following lists all of the items included in your MultiSync multimedia monitor package. Please save the original box and packing materials for future transportation or shipment of this monitor.

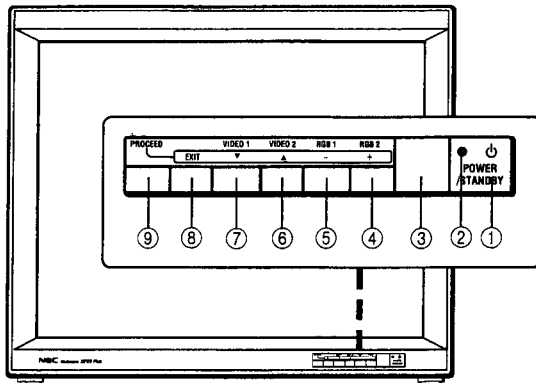
1. MultiSync XP29 Plus (XP-2990)/XM29 Plus (XM-2960) multimedia monitor
2. Power cord
3. Wireless remote control unit and two AA batteries
4. PC/Macintosh MultiCable (15-Pin Mini D-Sub To 15-pin D-Sub Connector)
5. User's manual
6. Quick set up card (Not attached to XP-2990G and XM-2960G)
7. Registration card : Please fill out and return the registration card as soon as possible. (Not attached to XP-2990G and XM-2960G)

- On-screen menus  
Plain English and clear instructions with graphic icons show you exactly how to adjust your screen image.
- Flexible inputs  
Connect up to four different inputs at once and switch among them with a touch of a button to seamlessly integrate information from a computer and VCR into one presentation.
- Signal loop-through  
Lets you run up to 2 monitors from one source, which can greatly simplify connections and reduce hardware requirements.
- Attractive cabinets  
A sleek, sophisticated cabinet design complements your presentation environment and enhances the professionalism of your presentations.
- Microsoft Plug and Play compatibility  
The only monitors in their class to include this standard that automatically optimizes display settings.
  - Supports most IBM VGA, S-VGA, XGA, Macintosh or any other RGB signals within a horizontal frequency range of 15.75 to 95 kHz (15.75 to 65 kHz for XM29 Plus) and a vertical frequency range of 40 to 120 Hz. This includes NTSC, PAL, SECAM, and M-NTSC standard video signals.
- MultiCable allows hook up to either Macintosh or IBM-PC compatible directly.
- Front bezel controls
- Universal power supply from 100 Vac thru 240 Vac

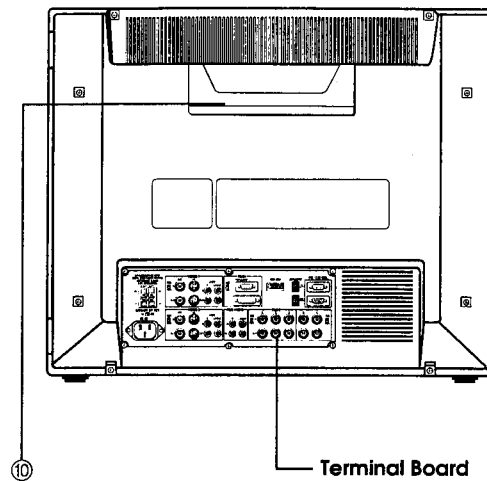


## Part Names and Functions

Front View



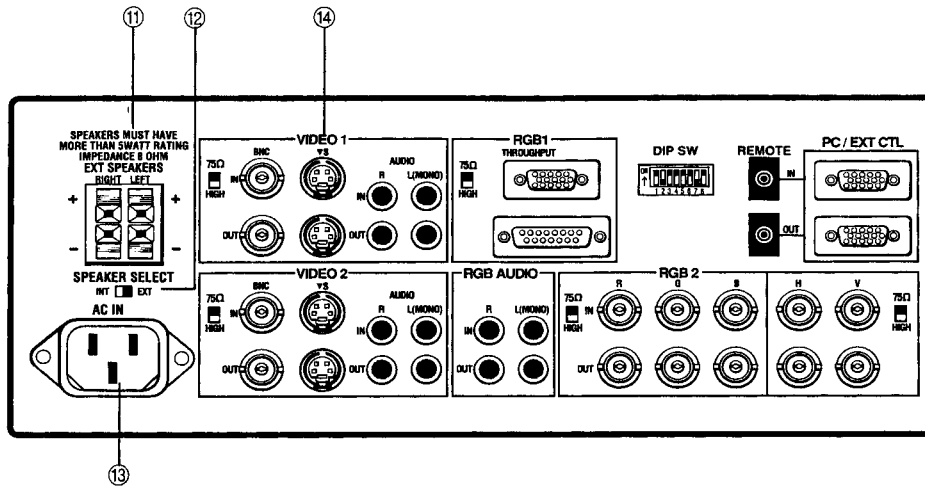
Rear View



- ① **POWER** ..... Press to turn the main power on and off when the AC power is supplied.
- ② **STANDBY/POWER** ..... When this indicator is green, the monitor is on; when the indicator is red, it is in standing by.
- ③ **Remote Sensor Window** ... Receives infrared signal from the handheld remote control.
- ④ **RGB 2/+** ..... Press to select an RGB video source that is connected to the RGB 2 input terminals (BNC type). When you are in the OSM mode, this button works as the plus button.
- ⑤ **RGB 1/-** ..... Press to select an RGB video source that is connected to the RGB 1 input terminal (D-SUB 15 pin type). When you are in the OSM mode, this button works as the minus button.

- ⑥ **VIDEO 2/▲** ..... Press to select an NTSC, PAL, SECAM or M-NTSC compatible video source that is connected to the VIDEO 2 input terminal (BNC type or S-VIDEO 2 IN). When you are in the OSM mode, this button works as the up button.  
**NOTE:** S-VIDEO IN terminals will take preference over VIDEO IN terminals when the video source is connected to each terminal and VIDEO 1 or 2 selected.
- ⑦ **VIDEO 1/▼** ..... Press to select an NTSC, PAL, SECAM or M-NTSC compatible video source that is connected to the VIDEO 1 input terminal (BNC type or S-VIDEO 1 IN). When you are in the OSM mode, this button works as the down button.
- ⑧ **EXIT** ..... Press to exit the OSM mode. The OSM screen disappears.
- ⑨ **PROCEED** ..... Press to access OSM. The OSM screen is displayed.
- ⑩ **Remote Control Holder** ..... Place remote control unit here when not in use.

## Terminal Board



⑪ **Speakers**

- RIGHT +** ..... Connect RIGHT speaker positive wire here.
- RIGHT -** ..... Connect RIGHT speaker negative wire here.
- LEFT -** ..... Connect LEFT speaker negative wire here.
- LEFT +** ..... Connect LEFT speaker positive wire here.

⑫ **SPEAKER SELECT INT/EXT Select Switch**

Set to the INT position for built-in monitor speakers. Set to the EXT position for speakers connected to EXT SPEAKERS terminals.

⑬ **AC Input**

Connect the supplied power cord's three-pin plug here.

⑭ **VIDEO 1**

- VIDEO 1 IN (BNC type)** .... Connect a VCR or laser disk player here to display the video.
- S-VIDEO 1 IN** ..... Here is where you connect S-Video input from an external source like a VCR.

**THROUGH OUT (BNC type)** ..... Connect to a second monitor's video input to relay the video signal input at VIDEO 1 IN.

**THROUGH OUT (S-VIDEO)** ..... Connect to a second monitor's S-connector input to relay the video signal input at S-VIDEO 1 IN.

**75 Ω/HIGH Impedance Select Switch for BNC type** ... Set to 75 Ω during normal operation. In multiple connections using VIDEO 1 IN and THROUGH OUT (BNC type) terminals, set to "HIGH" on all but the last monitor. Set to "75 Ω" on the last monitor only.

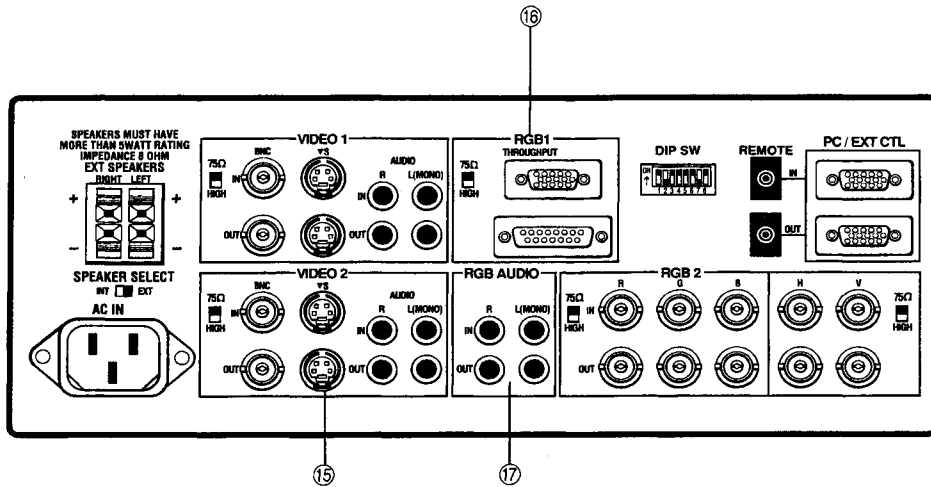
**AUDIO R IN** .... This is your right channel audio input for stereo sound.

**AUDIO L IN (MONO)** .... This is your left channel audio input for stereo sound coming from video equipment or audio system. It also serves as the mono audio input.

**AUDIO R THROUGH OUT** ..... Connect to a second monitor's right channel audio input.

**AUDIO L THROUGH OUT** ..... Connect to a second monitor's left channel audio input.

Terminal Board



15 VIDEO 2

**VIDEO 2 IN (BNC type)** .... Connect another VCR or laser disk player here to display the video.

**S-VIDEO 2 IN** ..... Connect S-Video input from another external source like a VCR.

**THROUGH OUT (BNC type)** ..... Connect to a second monitor's video input to relay the video signal input at VIDEO 2 IN.

**THROUGH OUT (S-VIDEO)** ..... Connect to a second monitor's S-connector input to relay the video signal input at S-VIDEO 2 IN.

**75 Ω/HIGH Impedance Select Switch for BNC type** .... Set to "75 Ω" during normal operation. In multiple connections using VIDEO 2 IN and THROUGH OUT (BNC type) terminals, set to "HIGH" on all but the last monitor. Set to "75 Ω" on the last monitor only.

**AUDIO R IN** ..... This is your right channel audio input for stereo sound.

**AUDIO L IN (MONO)** ..... This is your left channel audio input for stereo sound coming from video equipment or audio system. It also serves as the mono audio input.

**AUDIO R THROUGH OUT** ..... Connect to a second monitor's right channel audio input.

**AUDIO L THROUGH OUT** ..... Connect to a second monitor's left channel audio input.

16 RGB 1 (MultiCable)

**RGB Input/Throughput** ..... Attach either end of the MultiCable to a computer, and then attach the other end to either of these two connectors. You can then use the remaining connector, if you wish, to output the computer signal to a monitor. (If you do use a second monitor, turn the monitor switch to "on.") Either connector can be used for input or output, however they cannot both be used for input simultaneously. It can damage your computer.

**75 Ω/HIGH Impedance Select Switch** .... This switch should be "75Ω" for normal use without external termination or when your RGB signal should be terminated with 75Ω. Switch to the "HIGH" position when you have another monitor attached to your RGB through-put connector.

17 RGB AUDIO

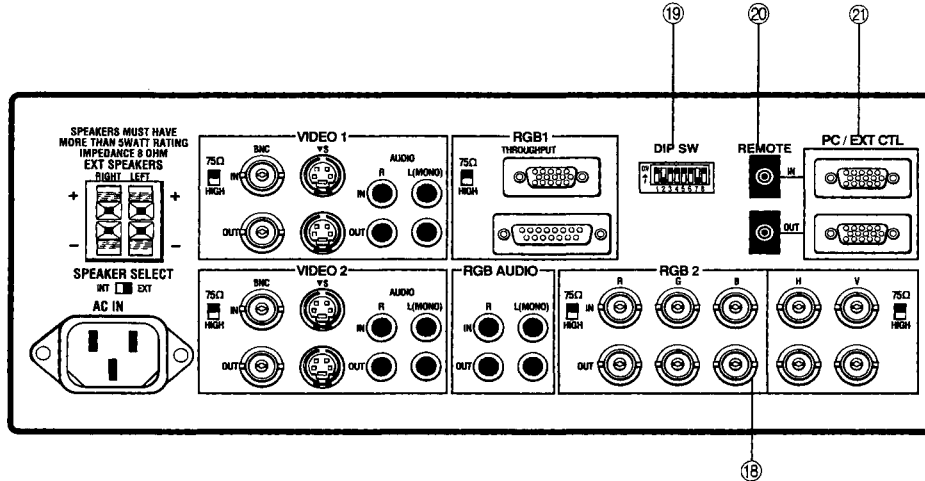
**AUDIO R IN** .... This is where you connect RGB right audio output from a computer or another RGB source.

**AUDIO L IN(MONO)** ... This is where you connect RGB left audio output from a computer or another RGB source.

**AUDIO R THROUGH OUT** ..... Connect to a second monitor's RGB right audio input.

**AUDIO L THROUGH OUT** ..... Connect to a second monitor's RGB left audio input.

Terminal Board



18 RGB 2

**R, G, B, H and V IN (BNC) .....** These are analog RGB input terminals. Connect external components with R, G, B, H, and V output terminals to these analog RGB input terminals. Be sure that the RGB connection cable is correctly attached to the corresponding terminals.

**R, G, B, H and V THROUGH OUT (BNC) .....** Connect to a second monitor's RGB inputs to relay the RGB signal inputs at R, G, B, H, and V IN.

**75 Ω/HIGH Impedance Select Switches for RGB and HV ....** Set to "75 Ω" during normal operation. In multiple connections using R, G, B, H and V IN and OUT terminals, set to "HIGH" on all but the last monitor. Set to "75 Ω" on the last monitor only.

19 DIP Switch

**DIP SW .....** This DIP switch sets Sync. Control, the Intelligent Power Manager, external control on/off, remote control on/off, and OSM system control on/off. See pages 17 and 18 for more details.

20 REMOTE IN/OUT

Connect the optional remote cable, included with the optional remote control, to the REMOTE IN terminal. The REMOTE OUT terminal is used to connect several monitors together and allows all of the monitors to be controlled by one remote control.

**NOTE:** Up to 50 monitors can be connected in the serial connection.

21 PC/EXT CTL IN(D-Sub 15-pin)

This terminal is used when power ON/OFF, input selection, AUDIO MUTE, PICTURE MUTE, and DEGAUSS are operated externally (by external control). See also page 43 for external control port pin assignments. You can also use this connector to connect your PC to control the MultiSync XP29 Plus/XM29 Plus monitor. This allows you to utilize your PC and serial communication protocol to control the monitor.

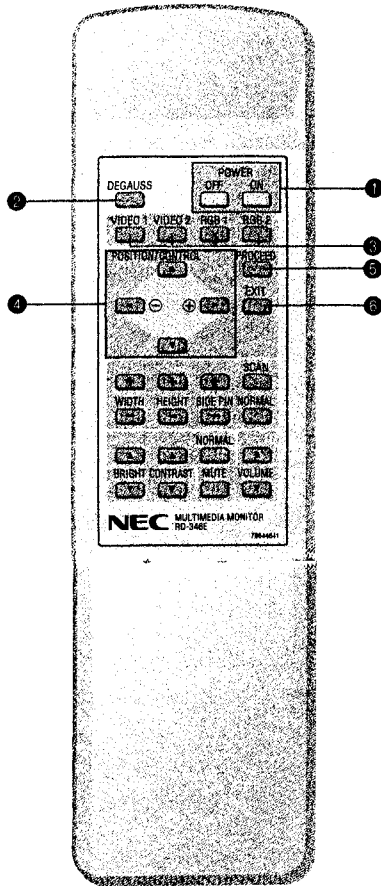
**NOTE:** Select EXT. CONTROL ON by setting pin No. 6 of DIP SW to the ON position when operating the monitor by external control.

**NOTE:** When in the EXT. CONTROL mode, the following operations of the supplied wireless remote control are not possible: Power control ON/ OFF, Input selection, and Degauss switch ON/OFF.

**PC/EXT CTL OUT (D-Sub 15-pin) .....** Connect to a second monitor's PC/EXT CTL input to relay the signal input at the PC/EXT CTL IN. The PC/EXT CTL OUT terminal is used to connect several monitors together and allows all of the monitors to be controlled by one external control. No. 6 pin (EXT. CONTROL) of DIP SW must be set to the ON position on all of the monitors.



Remote Control Unit



**NOTE:** When not in use the remote control unit is conveniently stowed in the holder on the rear panel.

1 POWER ON/OFF

Press POWER ON to turn the monitor on when the STANDBY/POWER indicator is lit red.

Press POWER OFF to turn the monitor off and the monitor will go into the standby condition.

2 DEGAUSS

Press to demagnetize the picture tube in the manual operation. See also page 27.

3 Input Select

**VIDEO 1** ..... Press to select an NTSC, PAL, SECAM or M-NTSC compatible video source from a VCR, laser disc player, document camera, or an S-Video source from a VCR connected to the VIDEO 1 IN terminal.

**VIDEO 2** ..... Press to select an NTSC, PAL, SECAM or M-NTSC compatible video source from a VCR, laser disc player, document camera, or an S-Video source from a VCR connected to the VIDEO 2 IN terminal.

**RGB 1** ..... Press to select an RGB video source from a computer connected to the RGB 1 IN terminal.

**RGB 2** ..... Press to select an RGB video source from a computer, NEC scan converter or document camera connected to the RGB 2 IN terminal.

OSM Control

1 POSITION/CONTROL

**POSITION**(▲▼◀▶) ..... Adjusts the vertical position of the image up and down, and the horizontal position of the image from left to right.

**CONTROL** (+/-) ..... Moves the bar in the + or - direction to increase or decrease the adjustment in an OSM menu.

**CONTROL**(▲/▼) .. Select one of the controls in an OSM menu. Press ▲ to select a higher item in the menu; press ▼ to select a lower item in the menu.

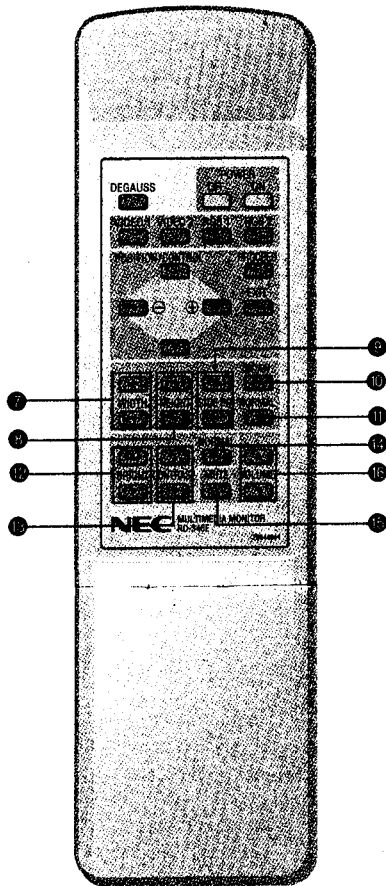
2 PROCEED

Press to access OSM. When an adjustment item is selected, a press of this button returns to its icon selection screen.

3 EXIT

Press to exit the OSM mode.

**NOTE:** The direct keys such as BRIGHT, CONTRAST, WIDTH, HEIGHT, SIDE PIN can access each control while in the OSM mode.



**Raster Control**

- ① **WIDTH (+ / -)**  
Adjusts the horizontal size of the image.
- ② **HEIGHT (+ / -)**  
Adjusts the vertical size of the image.
- ③ **SIDE PIN (+ / -)**  
Adjusts the curvature of the edges of the left and right side of the display image either inward or outward. The image should be adjusted to attain a straight line on the left and right sides.
- ④ **SCAN SELECT**  
Each time this key is pressed, the picture size switches from OVER SCAN for large size to UNDER SCAN for small size and vice versa. Normally select OVER SCAN for video display and UNDER SCAN for RGB display.
- ⑤ **NORMAL**  
This key resets the raster adjustment settings of user changeable memory and recalls the factory preset data.

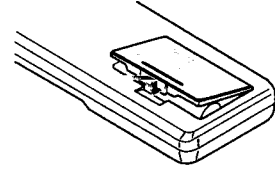
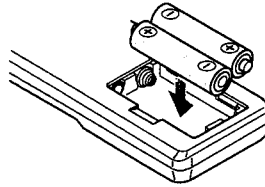
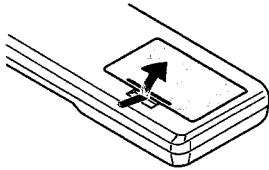
**Visual Control**

- ⑥ **BRIGHT (▲ / ▼)**  
Adjusts the overall image and screen brightness.  
Press and hold ▲ for a brighter picture.  
Press and hold ▼ for a darker picture.
- ⑦ **CONTRAST (▲ / ▼)**  
Adjusts the image brightness in relation to the background.  
Press and hold ▲ for higher contrast.  
Press and hold ▼ for lower contrast.  
**NOTE:** The VISUAL CONTROL storing operation is effective only for one input (VIDEO1, VIDEO 2, RGB 1 or RGB 2).
- ⑧ **NORMAL**  
This key resets the visual control settings and recalls the factory preset data.  
**NOTE:** The brightness and contrast adjustment level are factory preset at the optimum position.
- ⑨ **MUTE**  
Press to cancel sound ; press again to restore sound.  
**NOTE:** The other ways to restore sound are to press POWER OFF, then ON or to press VOLUME keys on the remote control unit.
- ⑩ **VOLUME (▲ / ▼)**  
Adjusts the volume.  
Press and hold ▲ to increase sound.  
Press and hold ▼ to decrease sound.

**Battery Installation and Replacement**

The remote control is powered by two 1.5V AA batteries.

1. Turn the remote control unit upside down. Press down on the battery compartment grip and slide the compartment in the direction of the arrow.
2. Install the two new batteries, making sure that their polarity matches the (+) (-) diagrams inside the battery compartment. Incorrect polarity could damage the remote control unit.
3. Close the battery compartment cover.

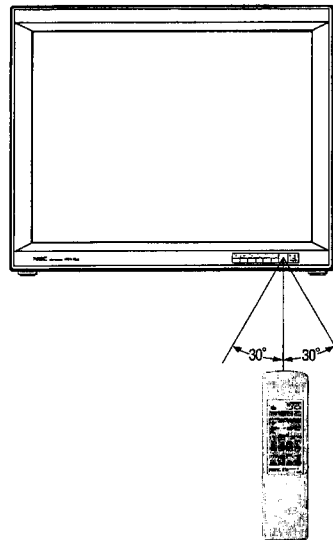


**Remote Control Cautions**

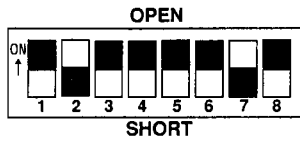
- Do not drop or mishandle the remote control unit.
- Do not get the remote control unit wet. If the remote gets wet, wipe it dry immediately.
- Avoid heat and humidity.
- When not using the remote control unit for a long period, remove the batteries.
- Do not use new and old batteries together, or use different types of batteries together.
- Do not take apart the batteries, heat them, or throw them into a fire.

**Operating Range**

- The infrared signal operates by line-of-sight up to a distance of approximately 22 feet/7 m and within a 60 degree angle of the remote sensor of the monitor.
- The monitor will not function if there are objects between the remote control and the sensor or if strong light falls on the sensor. Weak batteries will also prevent the remote control from properly operating the monitor.



## Functions of DIP SW



### Functions and Settings of DIP SW

This DIP switch is used for Sync. Control, Intelligent Power Manager, External control, wireless control, and OSM control. To change a switch setting use a pointed object, such as a pen or pencil, to push the switch to the desired position.

Set all the pins except No. 2 and 7 to the OFF/OPEN position during normal operation.

The pins nos 3 and 5 are not used.

#### Pin No 1 and 2(Sync. Control)

The No. 1 and 2 pins set Sync. Control.

Set the No. 1 pin to the OFF/OPEN position and the No. 2 pin to the ON/SHORT position during normal operation. The monitor automatically determines if the input signal is separate sync, composite sync or sync on green signal in this order.

#### Pin No. 4 (Intelligent Power Manager)

This function saves power.

When Intelligent Power Manager control is on, by using the monitor's horizontal and vertical SYNC signals, the monitor can be prompted into the different IPM modes. The following is the description of the LED indicator for the IPM power saving modes:

Mode	LED Indicator	Power Saving
On	Green	None
Standby	Red (Steady)	None
Standby	Amber(Blinking quickly)	Minimum (Quickest recovery)
Suspend	Amber(Blinking moderately)	Moderate (EPA<30 watts, Moderate recovery)
Off	Amber(Blinking slowly)	Maximum (EPA<30 watts, Slowest recovery)
Power Off	No Light	No Power Used (Fully Off)

**NOTE:** The Intelligent Power Manager works only for the RGB input. If selecting the VIDEO input, or when connecting to no signal source, the Intelligent Power Manager does not work.

Set the No. 1 pin to the ON/SHORT position when sync on green signals are necessary for synchronization with an external component.

When a composite signal is present, the picture may be distorted. If this happens, set the No.2 pin to the OFF/OPEN position.

#### Pin No. 6 (EXT. CONTROL)

When this switch is set to ON/SHORT, the External Control function is activated. See page 43 for pin assignments. If you have some monitors you do not want to control by remote, set to OFF/OPEN.

#### Pin No. 7 (REMOTE ON/OFF)

When this switch is set to ON/SHORT, the monitor can be controlled by the wireless remote control unit.

#### Pin No. 8 (OSM System Control Menu ON/OFF)

When this switch is set to ON/SHORT, the system control menu is displayed.

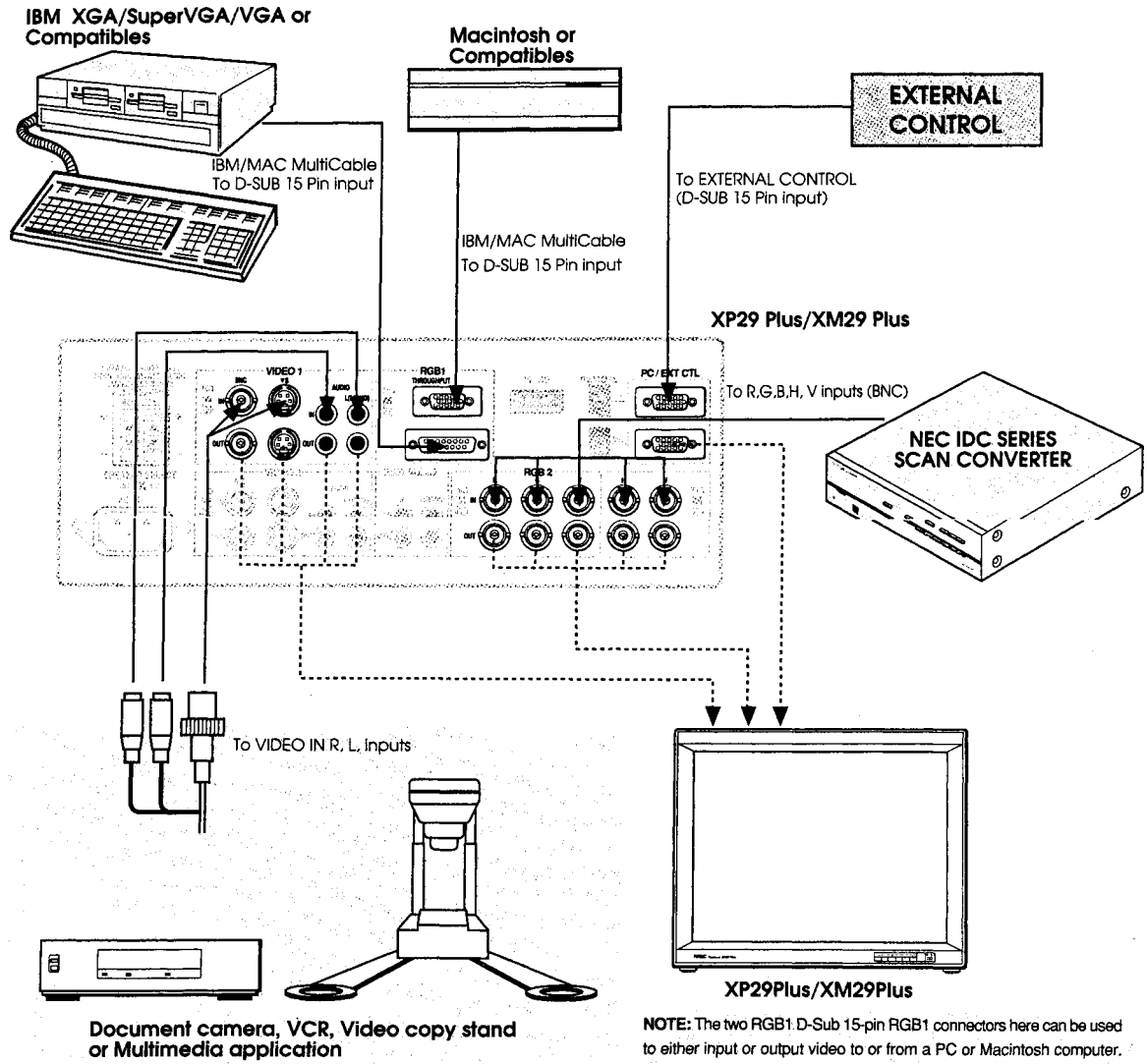
In this menu the following features are enabled:

- Power on mode set(POWER ON MODE)
- Front control key on/off(KEY CONTROL)
- Language selection(LANGUAGE)
- Video mode(auto/manual) selection(VIDEO MODE)
- OSM on/off(OSM ON/OFF)
- PC-control on/off(PC-CONTROL)

For the setting procedures to set the items, see page 39.

# Installation

Wiring Diagram



**NOTE:** The two RGB1: D-Sub 15-pin RGB1 connectors here can be used to either input or output video to or from a PC or Macintosh computer. Either connector can be used for input or output, however they cannot both be used for input simultaneously. It can damage your computer.

## Connecting Your PC or Macintosh Computer

Connecting your PC or Macintosh computer to your MultiSync XP29 Plus/XM29 Plus via the MultiCable connection system will enable you to display your computer's screen image. All of these following display standards are supported:

VGA 640 x 480 for graphics, VGA 640 x 400 for graphics, VGA 640 x 350 for graphics, VGA 720 x 400 for text, VGA 720 x 350 for text, SuperVGA 800 x 600, and XGA 1024 x 768, 1280x1024 standards above 60 Hz such as Sun, Silicon Graphics, HP, workstation standards; Macintosh at 640 x 480, 832 x 624, 1024 x 768, and 1152 x 870(XP29 Plus only).

To connect to a PC, Macintosh or computer equipped with a XGA/SuperVGA/VGA adapter or compatible graphics adapter, simply:

1. Turn off the power to your monitor and computer.
2. If your PC does not support Super XGA/VGA/VGA you will need to install an XGA/SuperVGA/VGA graphics board. Consult your computer's owner's manual for your XGA/SuperVGA/VGA configuration. If you need to install a new board, see the manual that comes with your new graphics board for installation instructions.

## Connecting Your VCR or Laser Disc Player

Using a common RCA cable and RCA audio cables (not provided) to connect your VCR or laser disc player to your MultiSync XP29 Plus/XM29 Plus monitor. To make these connections, simply:

1. Turn off the power to your monitor and VCR or laser disc player.
2. Connect one end of your RCA video cable to the video output connector on the back of your VCR or laser disc player, connect the other end to the VIDEO 1 or 2 input terminal(BNC-type) of the monitor. NOTE: You will need an RCA to BNC adaptor (not included) to convert to the XP29Plus/XM29Plus monitor. Use standard RCA audio patch cords to connect the audio from your VCR or laser disc player to your monitor (if your VCR or laser disc player has this capability). Be careful to keep your right and left channel connections correct for stereo sound.
3. Turn on the monitor and the VCR or laser disc player.

**NOTE:** Refer to your VCR or laser disc player owner's manual for more information about your equipment's video output requirements.

**NOTE:** S-VIDEO IN terminals will take preference over VIDEO IN terminals when a component is connected to each terminal and VIDEO 1 or 2 selected.

3. Use the supplied MultiCable to connect your computer to the monitor. For a PC, use the smaller 15-pin connector on the cable to connect to your computer's video port; use the larger 15-pin connector on the cable to connect to the monitor. For Macintosh, it's just the opposite. Use the larger 15-pin connector on the cable to connect to your computer's video port; use the smaller 15-pin connector on the cable to connect to the monitor. (You can also use your own video cable if you wish. For a PC cable, use the smaller 15-pin connector on the monitor. For a Macintosh cable, use the larger 15-pin connector on the monitor.)
4. Turn on the monitor and the computer.

**NOTE:** Refer to your computer's owner's manual for more information about your computer's video output requirements and any special identification or configuring your monitor's image and monitor may require.

## Connecting Your Document Camera

You can connect your MultiSync XP29 Plus/XM29 Plus monitor to a document camera. To do so, simply:

1. Turn off the power to your monitor and document camera.
2. Use a standard video cable to connect your document camera to the VIDEO 1 or 2 input terminal(BNC-type) of the monitor.
3. Turn on the monitor and the document camera.

**NOTE:** Refer to your document camera's owner's manual for more information about your camera's video output requirements.

## Connecting Your NEC IDC Series Scan Converter

You can connect an NEC IDC series scan converter to the monitor to improve the quality of your video images. To do so:

1. Turn off the power to your monitor and scan converter.
2. Use a cable (RGB HV 5 conductor BNC/BNC) supplied with the scan converter to connect the RGB 2 inputs of the monitor.
3. Turn on the monitor and the scan converter.

**Daisy-chaining Your monitors**

The REMOTE IN/OUT terminals allow you to control monitors by one remote control.

**NOTE:** The connection of three XP29 Plus/XM29 Plus monitors or more with THROUGH OUT (VIDEO 1, VIDEO 2, RGB 1 or RGB 2) terminals may degrade image quality.

To do so:

**When using the VIDEO inputs:**

**THROUGH OUT (VIDEO 1) Connections**

1. Connect THROUGH OUT 1 BNC or S-VIDEO 1 OUT to external components to relay the signal input at VIDEO 1 IN(BNC-type), or S-VIDEO 1 IN.
2. Connect the external component mono audio or stereo left channel audio input to L AUDIO.
3. Connect the external component stereo right channel audio input to R AUDIO.
4. Set the 75Ω/HIGH impedance select switch of the corresponding input signal (BNC, S-VIDEO) on all but the last monitor to "HIGH" position. On only the last monitor is set to "75Ω" position.

**THROUGH OUT (VIDEO 2) Connections**

1. Connect THROUGH OUT 2 BNC or S-VIDEO 2 OUT to external component to relay the signal input at VIDEO 2 IN(BNC-type) or S-VIDEO 2 IN.
2. Connect the external component mono audio or stereo left channel audio input to L AUDIO.

3. Connect the external component stereo right channel audio input to R AUDIO.
4. Set the 75Ω/HIGH impedance select switch of the corresponding input signal (BNC, S-VIDEO) on all but the last monitor to "HIGH" position. On only the last monitor is set to the "75Ω" position.
5. Connect the REMOTE OUT of the monitor to the REMOTE IN of the next monitor using the optional remote cable.

**When using the RGB inputs:**

**THROUGH OUT Connections**

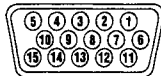
1. (RGB1): Connect D-Sub 15-pin THROUGH OUT to an RGB input connector of other monitors.  
(RGB2): Connect the R,G,B,H and V THROUGH OUT terminals to relay the signal input at the R,G,B,H and V IN terminals.
2. Set all the 75Ω/HIGH impedance select switches on all but the last monitor to "HIGH" position. On only the last monitor is set to the "75Ω" position.
3. Connect the REMOTE IN of the monitor to the REMOTE OUT of the next monitor using the optional remote cable.

**NOTE:** "Plug and Play" is available only for the monitor connected directly to a personal computer with the D-Sub 15-pin RGB connector. Therefore, "Plug and Play" does not work for monitors connected with the THROUGH OUT terminal. This is because only the RGB video, the horizontal, and the vertical sync. signal is output from the THROUGH OUT terminals.

**NOTE:** "Plug and Play" is not available for the RGB 2 BNC terminals.

**D-Sub 15 Pin RGB Signal Composition**

Pin Assignments and Signal Levels for 15 pin RGB (Analog)



**D-SUB 15pin RGB Input Connector (ANALOG ONLY)**

Pin No.	Signal to be connected (D-SUB 15 pin)
1	RED
2	GREEN or Sync Green
3	BLUE
12	No Connection
13	H. or Composite sync
14	V.SYNC
15	No Connection
4	GND
5	GND
6	GND
7	GND
8	GND
11	GND
10	No Connection
9	No Connection



Pin No.	Through output (MAC 15 pin)
2	RED
5	GREEN or Sync Green
9	BLUE
7	SDA (PnP)
3	H. or Composite sync
12	V.SYNC
15	SCL (PnP)
1	GND
4	GND
6	GND
11	GND
13	GND
8	No Connection
10	No Connection
14	No Connection

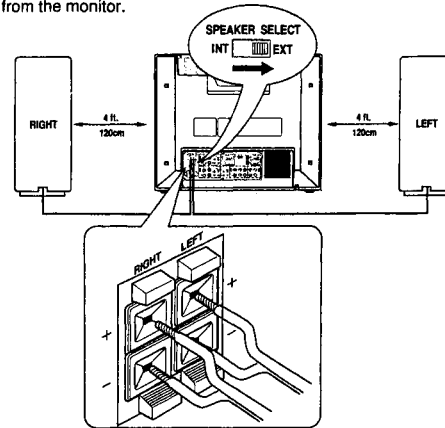
## External Speaker Connections

External speakers may be connected to the monitor to reproduce sound from VIDEO 1, VIDEO 2, RGB 1 or RGB 2 signal sources.

External speakers may be connected directly to the EXTERNAL SPEAKERS terminals or indirectly by connecting a stereo system amplifier to the audio outputs.

**WARNING:** Speakers that are installed next to the monitor must be shielded against electromagnetic radiation which can cause color distortion in the CRT and is not covered under the warranty.

If non-shielded speakers are used, they must be located a minimum of 4 feet away from the monitor.

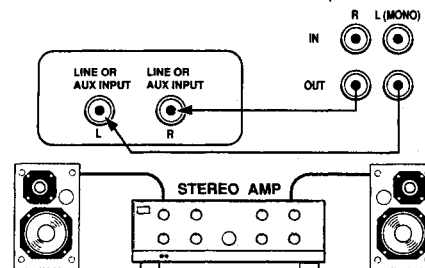


**CAUTION:** Unplug the monitor and all connected components before connecting external speakers. Use only speakers with 8-ohm impedance and a power output rating of 5 watts or more.

To connect external speakers directly to the monitor:

1. Strip the ends of the speaker wires.
2. Press down a button below the EXTERNAL SPEAKERS terminals, insert the speaker wire and release the button to secure a speaker wire connection:
  - [a] Connect the right speaker (located at right side of the monitor when viewed from the front) positive (+) wire to RIGHT +.
  - [b] Connect the right speaker negative (-) wire to RIGHT -.
  - [c] Connect the left speaker negative (-) wire to LEFT -.
  - [d] Connect the left speaker positive wire (+) to LEFT +.
3. Set SPEAKER SELECT switch at EXT.

VIDEO or  
RGB AUDIO L and R outputs of XP29Plus/XM29Plus



To connect the monitor to stereo system speakers:

1. Connect L AUDIO output to the stereo amplifier L AUX input.
2. Connect R AUDIO output to the stereo amplifier R AUX input.
3. Set SPEAKER SELECT switch at EXT to use external speakers only. For center channel audio fill, set SPEAKER SELECT at INT for sound from both monitor and external speakers.

**IMPORTANT:** Do not connect speakers to both the monitor EXTERNAL SPEAKERS terminals and to the stereo amplifier. This could damage both the monitor and the speakers.



## Operation

### Power

This section describes how to select a computer or video source and how to adjust the picture and sound.

### General Controls

Before you turn on your MultiSync XP29 Plus/XM29 Plus monitor ensure that the computer or video source is turned on.

To adjust:

#### 1. Turn On The Monitor

The power button is on the front panel of the monitor. By turning this switch on, the STANDBY/POWER indicator will turn to green and the monitor will become ready to use. OSM is also usable from the front bezel.

After you press the POWER OFF button on the remote control, the monitor will go into its standby mode and the STANDBY/POWER indicator will glow red.

#### 2. Select The Computer Or Video Source

Press the "VIDEO 1" or "VIDEO 2" (VCR, document camera, or laser disc player), or "RGB 1" or "RGB 2"(computer) button on the remote control to display the image. Or press the button on the front panel to select your video source: "VIDEO 1", "VIDEO 2", "RGB 1", or "RGB 2".

**NOTE 1:** In the U.S.A. the standard video signal format is NTSC, therefore make sure that the AUTO or NTSC is selected on OSM system control menu. See page 40.

**NOTE 2:** Select the over scan mode for VIDEO display.

#### 3. Adjust The Raster or The Picture Control.

You can adjust the raster such as the horizontal size, vertical size or side pincushion correction, and the brightness and contrast of the image with the remote control.

#### 4. Turning Off The monitor.

Press the POWER OFF button on the remote control or press the POWER button on the front panel.

### Degaussing

The earth's magnetic field and other magnetic sources can magnetize a color picture tube causing patches of impure colors. This monitor automatically demagnetizes the picture tube for 5 seconds each time the monitor is switched on. Sometimes during transportation a severe magnetic field can be encountered which may require demagnetizing to clear the problem. Also, if powered on for extended periods of time, magnetic fields can be produced by the CRT itself, causing color impurities. In these cases, use the DEGAUSS key once to demagnetize the picture tube. Pressing this key once demagnetizes the picture tube for 5 seconds.

**CAUTION:** Please allow a minimum of 30 minutes to elapse between uses of the DEGAUSS key, when not switching from mode to mode. Do not hold the key down continuously to avoid decreasing the life of the degauss circuitry.

### Using OSM Controls

NEC's new OSM, or On-Screen Manager, System offers the ultimate form of monitor controls. Keys on the remote control unit or front bezel allow you to easily navigate through menus and adjust controls.

OSM controls include extended controls such as Brightness, Contrast, Size, Position, Pin cushion, Keystone, Vertical Linearity, Scan Select and other OSM utilities. Adjustments are saved instantly. The currently addressed control can be reset to factory settings by pressing the NORMAL key.

OSM keys on the remote control unit function as follows:

- PROCEED** : accesses the OSM controls. When an adjustment item is selected, a press of this button returns to its icon selection screen.
  - in the color temperature: proceeds to the control for RGB gain and bias.
- EXIT** : exits the OSM controls.
  - in the RGB gain and bias: return to the color temperature screen.
- POSITION CONTROL up/down** : selects one of the control items.
- POSITION CONTROL +/-** : increase or decrease the settings level.
  - selects a group icon at top of the OSM screen when any one of them is highlighted without any specific control selected.

**NORMAL (RASTER/VISUAL)** : resets the currently selected control to the factory setting.

-when a specific group icon is highlighted, this key resets all the specific controls settings or all the settings.

-when a specific control is selected: this key resets the selected adjustments.

**NOTE:** The NORMAL function is not valid in the OSM Turn Off Time, Language Select menus, and Volume Control.

## Direct Control Screen

You can adjust the raster, visual and sound using the direct key on the remote control.

To switch to another control screen, press any one of the other keys.

\*To end the OSM display, press EXIT.

\*If no key operation is made within 3 seconds, the OSM display will disappear.

### a. POSITION/CONTROL

Press **▶** to move the image right. Press **◀** to move the image left.



Press **▲** to move the image up. Press **▼** to move the image down.



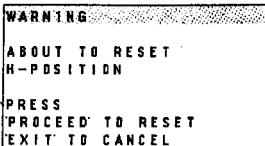
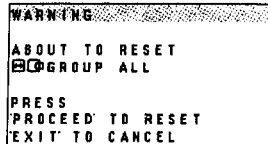
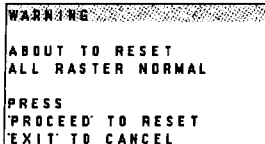
### b. WIDTH

Press to adjust the horizontal size of the image.



### f. NORMAL (raster)

Press to reset all the stored adjustment raster data and recall the factory preset data. When a specific control is selected, this key resets the selected raster adjustments.



### c. HEIGHT

Press to adjust the vertical size of the image.



### d. SIDE PIN

Press to adjust the curvature of the edges of the left and right side of the display image either inward or outward. The image should be adjusted to attain a straight line on the left and right sides.



### e. SCAN

Press to select the scan mode: over scan and under scan.



### g. BRIGHT

Press to adjust the brightness of video display.



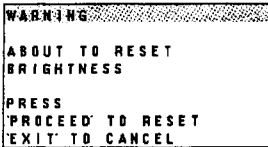
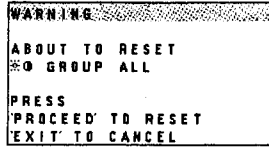
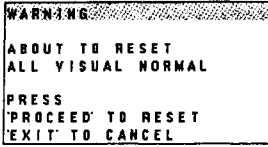
### h. CONTRAST

Press to adjust the contrast of video display.



**I. NORMAL (visual)**

Press to reset all the stored adjustment visual data and recall the factory preset data. When a specific control is selected, this key resets the selected visual adjustments.



**J. MUTE**

Press to turn off the sound for a short period of time; press again to restore the sound.



**k. VOLUME**

Press ▲ to increase the sound; press ▼ to decrease the sound.



**NOTE:**

When pressing a key that does not correspond to the function currently in use, the following message will be displayed on the monitor.

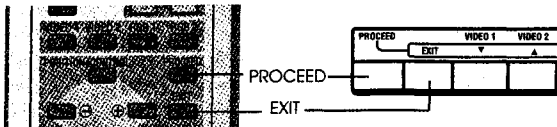


**Accessing OSM**

Press the PROCEED key on the remote control or front bezel.

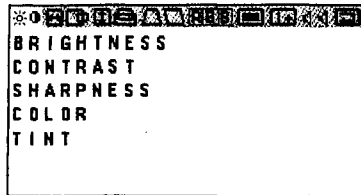
To turn off OSM

Press the EXIT key on the remote control or front bezel.



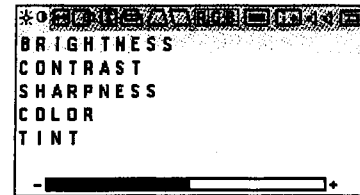
**OSM Menu**

On-Screen Manager's menu of Controls gives you an overview of the selection of controls available.



**Visual Controls Group**

The visual controls allow you to adjust the picture controls such as brightness, contrast, color, tint, and sharpness.



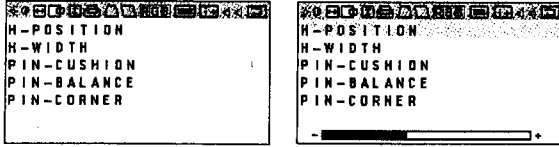
- BRIGHTNESS** : Pressing + or - increases or decreases the image brightness level.
- CONTRAST** : Pressing + or - increases or decreases the image contrast level.
- SHARPNESS** : Pressing + or - increases or decreases the image sharpness level.
- COLOR** : Pressing + or - increases or decreases the image color saturation level
- TINT** : Pressing + or - increases or decreases the red and green values.

**NOTE:** The color, tint and sharpness controls are not available for RGB input, and the tint is not available for PAL input.

**NOTE:** Pressing the visual NORMAL key resets all the visual controls to the factory settings when only the visual controls group icon is highlighted.

**H-position/H-width/Pin-cushion Controls Group**

The H-position/H-width/Pin-cushion Controls allow you to adjust the horizontal position, horizontal size and pin-cushion of the image.



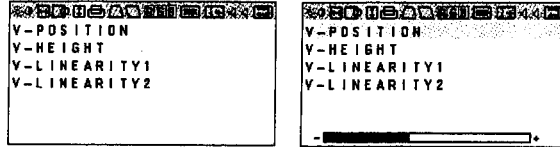
- H-POSITION** : Pressing + or - moves the image horizontally right or left.
- H-WIDTH** : Pressing + or - decreases or increases the horizontal size of the image (wider or narrower).
- PIN-CUSHION** : Pressing + or - decreases or increases the curvature of the sides either inward or outward.
- PIN-BALANCE** : Pressing + or - decreases or increases the curvature of the sides to right or to left.
- PIN-CORNER** : Pressing + or - decreases or increases the curvature of the four corners inward outward.

**NOTE:** The V-LINEARITY controls allow you to adjust the spacing of the areas on the screen. The object of this control is to ensure that a one-inch circle is a true one-inch circle where ever it is drawn on the screen.

- draw equally spaced horizontal lines using a drawing application that has a ruler.
- use the V-LINEARITY 1 and 2 controls to adjust the spacing between the lines near the top and the bottom of your screen.

**V-position/V-height/V-linearity Controls Group**

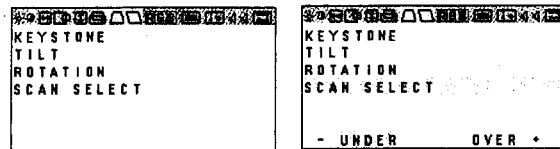
The V-position/V-height/V-linearity Controls allow you to adjust the vertical position, vertical size and vertical linearity of the image.



- V-POSITION** : Pressing + or - moves the image vertically up or down.
- V-HEIGHT** : Pressing + or - increases or decreases the vertical size of the image (taller or shorter).
- V-LINEARITY 1** : Pressing + increases the spacing between the lines near the top and decreases the lines near the bottom at the same time; pressing - increases the spacing between the lines near the bottom and decreases the lines near the top at the same time.
- V-LINEARITY 2** : Pressing + or - increases or decreases the spacing between the lines near the top of your screen and near the bottom of your screen at the same time.

**Keystone/Tilt/Rotation/Scan Select Controls Group**

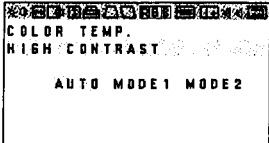
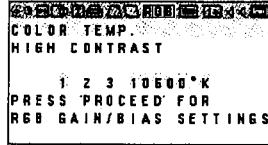
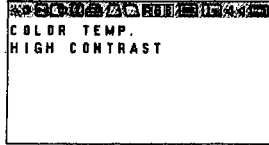
The Keystone/Tilt/Rotation/Scan Select Controls allow you to adjust the raster rotation or angle of the sides of your display and to select either Under Scan (for RGB display) or Over Scan (for VIDEO display).



- KEYSTONE (trapezoidal)** : Pressing + or - increases or decreases the bottom of the screen to be the same as the top.
- TILT** : Pressing + or - increases or decreases the tilt of your display.
- ROTATION (raster rotation)** : Pressing + or - rotates the entire display clockwise or counter clockwise.
- SCAN SELECT** : Pressing + or - selects the over scan mode or the under scan mode.

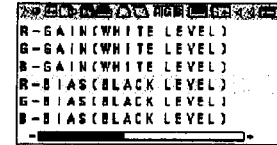
**RGB Controls Group**

The RGB Controls allow you to adjust the color temperature, high contrast and the white balance for RGB input.



- COLOR TEMP.** : Pressing + selects the color temperature: 10500 K, 9300K, 6500K or custom.
- HIGH CONTRAST** : Pressing + or - selects one of the three modes: AUTO, MODE1, or MODE2.  
Normally set to AUTO. MODE1 is used for the high contrast mode. This mode is recommended for graphics display.

MODE2 is used for the wide video band mode. This mode is recommended for text display.  
AUTO automatically selects either the high contrast mode for horizontal frequencies of less than 40 kHz, or the wide band video mode for 40 kHz or over.

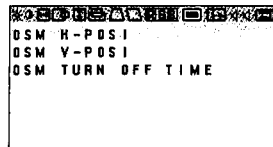
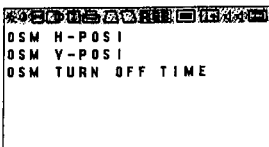


Pressing the PROCEED key proceeds to the RGB gain and bias adjustment. This adjustment allows you to adjust the white balance.

- R, G, B-GAIN** : Pressing + or - increases or decreases the gain level for each color.
- R, G, B-BIAS** : Pressing + or - increases or decreases the bias level for each color.

**OSM Location/OSM Turn Off Time Control**

You can choose where you would like OSM image to appear on your screen. Selecting OSM location allows you to manually adjust the OSM menu left, right, up, or down. The OSM menu will stay on as long as it is in use. In the OSM Turn Off Time submenu, you can select how long the monitor waits after the last touch of a key to shut off the OSM menu. The preset choices are 5, 10, 30, and 120 seconds. Note that 30 seconds is the factory preset.

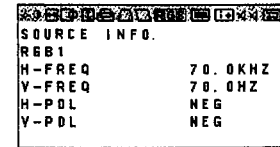
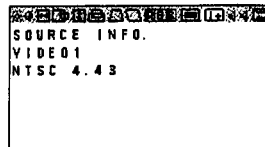


- OSM H-POS1** : Pressing + or - moves the OSM menu right or left.
- OSM V-POS1** : Pressing + or - moves menu up or down.
- OSM TURN OFF TIME** : Pressing + or - selects the preset time in increasing or decreasing order.

**Source Information**

Source Information provides you information about the current resolution display and technical data including the horizontal and vertical frequency.

**NOTE:** These adjustments are for RGB mode only.



- H-FREQ** : indicates the horizontal frequency of the current input signal.
- V-FREQ** : indicates the vertical frequency of the current input signal.
- H-POL** : indicates the polarity of the horizontal sync. signal.
- V-POL** : indicates the polarity of the vertical sync. signal.
- NEG** : indicates the polarity is negative.
- POS** : indicates the polarity is positive.

## Volume Control

The Volume control allows you to adjust the volume.



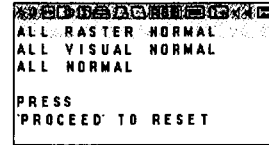
**VOLUME** : Pressing + or - increases or decreases the volume.

**NOTE:** When you mutes the sound, the MUTE display appears.

## Reset Control

The Reset control allows you to return image parameters to factory presets.

### All Raster Settings

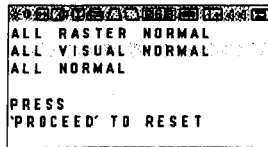


The above warning statement will appear to confirm that you do want to reset all raster settings. If you want to reset all raster settings, press PROCEED.

The following items can be reset:

H-POSI, H-WIDTH, PIN-CUSHION, PIN-BALANCE, PIN-CORNER, V-POSI, V-HEIGHT, V-LIN1, V-LIN2, KEYSTONE, TILT and ROTATION.

### All Visual Settings

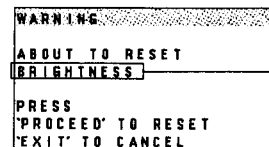


The above warning statement will appear to confirm that you do want to reset all visual settings. If you want to reset all visual settings, press PROCEED.

The following items can be reset:

BRIGHTNESS, CONTRAST, COLOR, TINT, SHARPNESS, COLOR TEMP., R-GAIN, G-GAIN, B-GAIN, R-BIAS, G-BIAS, and B-BIAS.

### Specific Item Settings



Specific adjustment item to be reset.

The above warning statement will appear to confirm that you do want to reset individual settings.

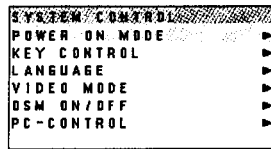
#### NOTE:

- In addition to OSM controls, adjustments can be directly accessed with the remote control keys. When adjusting with the remote control keys, the on-screen display for the related adjustment appears instead of the OSM menu.
- When OSM ON/OFF is set at OFF in the System Control menu (see below), OSM controls are not available while the remote control direct access is possible.

**OSM System Control Menu**

The OSM System control menu allows you to set a various conditions of the monitor.

**NOTE:** This control is available only when No. 8 pin of the DIP switch is set at the ON position. The DIP switch is located on the back cabinet.



OSM keys on the remote control unit function as follows:

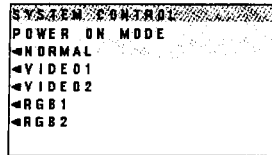
- POSITION CONTROL up/down** : highlights one of the control items in the System control menus.
- POSITION CONTROL +** : proceeds to the selected menu choice.
- POSITION CONTROL -** : exits the current control and returns to its original System control menus.
- EXIT** : exits the OSM controls.

OSM windows have the following elements:

- Right-oriented delta symbol** : indicates further choices are available. Use the up or down keys to highlight the item. Pressing + proceeds to the selected control screen.
- Left-oriented delta symbol** : indicates that you can exit the current control. Pressing - returns you to its original System control menus.

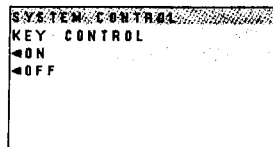
**POWER ON MODE**

This control allows you to set the monitor to default to any one of its inputs each time the monitor is turned on.



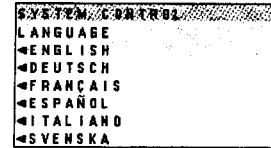
**KEY CONTROL**

This control allows you to disable the keys on the front panel such as PROCEED, EXIT, VIDEO 1, VIDEO 2, RGB 1, RGB 2, down, up, -, and +. If you accidentally hit any one of the buttons, it does not affect the monitor.



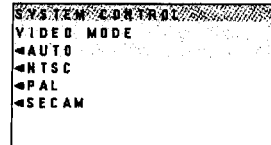
**LANGUAGE**

OSM menus are available in six languages: English, German, French, Spanish, Italian, and Swedish.



**VIDEO MODE**

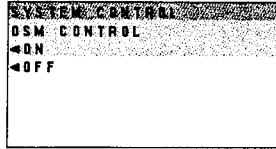
This control allows you to select the NTSC, PAL, or SECAM video standard. Normally select AUTO.



## OSM ON/OFF

This control allows you to enable the OSM control.

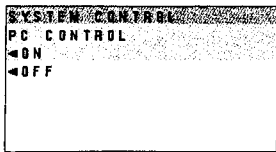
The OSM control is available when ON is selected. When the OSM does not appear, the visual and raster controls are available with the remote control.



## PC-CONTROL

This control allows you to activate the PC-control function.

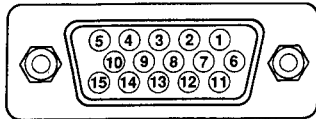
For more information see the following pages.





## PC/External Control Function

### PC/External Control Port Pin Assignments



#### D-SUB 15pin (Input/Output)

Pin No.	Signal Name	
1	No Connection	
6	Receive Data	
2	No Connection	
7	Transmit Data	
11	No Connection	
12	Clear to Send	
3	No Connection	
8	Request to Send	
9	Ground	
4	Input Select	EXT-CTL
5	Input Select	EXT-CTL
10	Power ON/OFF	EXT-CTL
13	No Connection	
14	Degauss ON/OFF	EXT-CTL
15	Signal Ground	

**NOTE:** If EXT.CTL is set to ON, only EXT.CTL will be effective for the above functions.

If EXT.CTL is set to OFF, PC CTL will be effective. Pin No.8 is connected to pin No. 12.

#### External Control

Pin No.	4	5	10	14
VIDEO1	OPEN	OPEN	-	-
VIDEO2	GND	OPEN	-	-
RGB1	OPEN	GND	-	-
RGB2	GND	GND	-	-
POWER OFF	-	-	OPEN	-
POWER ON	-	-	GND	-
DEGAUSS OFF	-	-	-	OPEN
DEGAUSS ON	-	-	-	GND

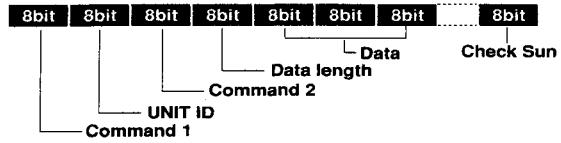
**Command reference**

You can control the main functions from external equipment such as personal computer using the PC/EXT CTL terminals. The following sections explain the interface.

**Interface Condition**

- RS-232C
- Baud rate ..... 9600 bps
- Data length ..... 8 bits
- Parity ..... Odd parity
- Stop bit ..... 1 bit
- Communications mode ..... Full duplex

**Control Data Format**

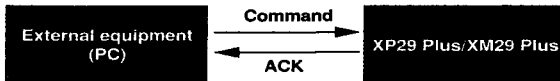


- Command 1 ..... Code based on the command system
- UNIT ID ..... Code allocated to each equipment (Allocate 80H to the XP29 Plus/XM29 Plus)
- Command 2 ..... Code allocated to the main functions of the XP29 Plus/XM29 Plus
- Data Length ..... Number of bytes of the data that is transmitted
- Data ..... Data transmitted
- Check Sum ..... Lower eight digits of sum total of the first byte to the byte immediately before the last.

**Command Communication Sequence**

When external equipment such as a personal computer gives the command to the XP29 Plus/XM29 Plus, the XP29 Plus/XM29 Plus returns an ACK. So make sure that the external equipment receives this ACK.

**Command sending/receiving sequence**



The XP29 Plus/XM29 Plus returns an ACK if it has received the command correctly.

If it has not received the command correctly due to data error, it will return nothing. Therefore, when the external equipment send a command, make sure that it received the ACK.

PC CONTROL COMMAND LIST FOR USE WITH THE XP29 Plus/XM29 Plus

PC → XP29 Plus/XM29 Plus

COM1	COM2	Contents	Length
9F	4E	Power On	00
	4F	Power Off	00
	A1	Degauss Control	00

XP29 Plus/XM29 Plus → PC

COM1	COM2	Contents	Length
3F	4E	Power On (ACK)	00
	4F	Power Off (ACK)	00
	B0	Input Switching (ACK)	00
7F	A1	Degauss Control(ACK)	01

Example: Input switching (VIDEO 1) from the PC to the XP29 Plus/XM29 Plus (when the address selector equals 0)

PC → XP29 Plus/XM29 Plus

COM1	UA	COM2	Length	Data 1	Data 2	Sum
DF	80	B0	02	00	VIDEO1 : 01	12
					VIDEO2 : 02	13
					RGB1 : 03	14
					RGB2 : 04	15

XP29 Plus/XM29 Plus → PC

COM1	UA	COM2	Length	Data 1
3F	80	B0	00	6F

# Troubleshooting

Before arranging for service by the NEC Service Center, check the following to be sure repairs are needed.

Problem	Possible Cause	Correction
<b>No Picture or Sound</b>	Power cord unplugged. Power outlet inactive. Power of external equipment is not ON. External equipment has been incorrectly connected. Incorrect input selection.	Plug in power cord. Be sure wall switch is on and outlet has power. Switch to ON or connect to an active AC outlet. Correct all connections. Press correct RGB1, RGB 2, VIDEO 1 or VIDEO 2 button.
<b>Sound OK; poor picture with VIDEO signal input.</b>	Improper control setting. Local interference. Cable interconnections. Input impedance is not correct level.	Adjust picture controls as needed. Try another location for the monitor. Be sure all connections are secure. Check 75 ohm high impedance select switch.
<b>Sound OK; poor picture with RGB signal input.</b>	Improper control setting. Incorrect 15 PIN connector pin connections.	Adjust picture controls as needed. Check pin assignments and connections.
<b>Picture OK; poor or no sound.</b>	Cable interconnections. Volume is not adjusted. Poor audio connections from external source. Improper control settings. MUTE key is ON.	Be sure all connections are secure. Adjust volume. Correct audio connections. Adjust volume controls. Press again to restore sound.
<b>Poor sound from external speakers or stereo system speakers</b>	Cable interconnections. Improper volume setting.	Secure all cable connections. Check volume controls of all components.
<b>Remote control does not work.</b>	Weak batteries. Obstacle between Remote Control and Sensor Window. (Wireless) You are not within the effective operating range. (Wireless) Incorrect setting of No. 7 pin of the DIP SW. (Wireless)  When in the EXT. CONTROL mode, the remote control unit will not operate the monitor.	Install new batteries. Point remote control directly at Sensor Window.  Use the remote control unit within 30° left and right of center (at a distance of within 22ft). Set Pin no. 7 of DIP SW to ON/SHORT.  Set Pin no.6 of DIP SW to OFF/OPEN.
<b>STANDBY/POWER Indicator is blinking</b>	Horizontal and/or vertical sync signal is not present when the Intelligent Power Manager control is on.	Check the input signal.

**In the following case, power off the monitor immediately and contact your dealer or authorized NEC Service Center.**

The monitor turns off in 5 seconds after powering on and then the STANDBY/POWER indicator blinks in one second intervals. It indicates that the power supply circuit or, one or more fans have been damaged.

## Specifications

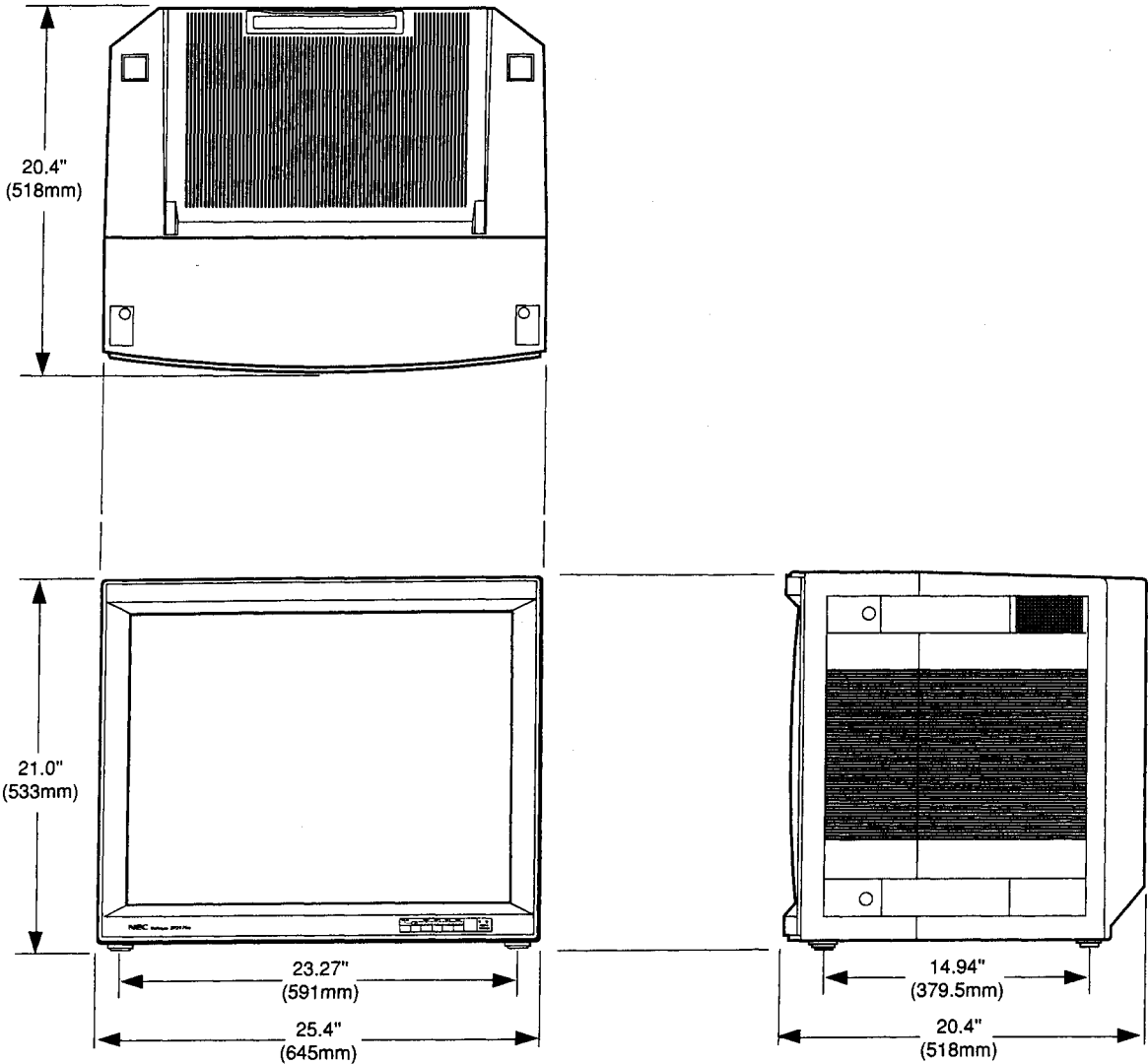
<b>Picture tube</b>	27 inch Visual size; 29 inch CRT size (Diagonal), Type A68 108 degree deflection Stripe trio pitch Ph 0.60 mm at center, Ph 0.78 mm at corner/Pv 0.56 mm Invar mask, Medium-short persistence phosphor Anti-static electricity coating Optical filter coating Dynamic focus
<b>RGB Input Terminals</b>	RGB 1 : D-SUB 15pin/mini D-SUB 15pin RGB 2: (R, G, B, H and V) : Video : Analog 0.7Vp-p/75 Ohms (Positive) : Sync. : Separate Sync. TTL level, 0.7 - 4.0Vp-p/75 Ohms.....RGB 2 only Horizontal Sync. (Positive/Negative) Vertical Sync. (Positive/Negative) : Composite Sync. TTL Level (Positive/Negative) : Composite Sync. On Green Video 0.3Vp-p (Negative)
<b>RGB Output Terminals THROUGH OUT</b>	RGB 1 : D-SUB 15 pin/mini D-SUB 15 pin RGB 2 : BNC (R, G, B, H and V)
<b>Video Input Terminals VIDEO 1/2 S-VIDEO (Video 1/2)</b>	1.0Vp-p, 75 Ohms unbalanced (BNC-Jack), Composite video signal, Sync-negative. Y : 1.0Vp-p, 75 Ohms unbalanced, Sync-negative. C : 0.28Vp-p, 75 Ohms unbalanced, Color burst level.
<b>Video Output Terminals THROUGH OUT (Video 1, 2) THROUGH OUT (S-VIDEO 1, 2)</b>	1.0Vp-p, 75 Ohms unbalanced (BNC Jack), Composite video signal, Sync-negative. Y : 1.0Vp-p, 75 Ohms unbalanced, Sync-negative. C : 0.28Vp-p, 75 Ohms unbalanced, Color burst level.
<b>Audio Input Terminals VIDEO 1, 2 / RGB</b>	Left (Mono) : 0.5 Vrms, high Impedance (Pin-Jack) Right : 0.5Vrms, high Impedance (Pin-Jack)
<b>Audio Output Terminals THROUGH OUT</b>	Left : 0.5 ± 0.1 Vrms, less than 22 K Ohms (Pin-Jack) Right : 0.5 ± 0.1 Vrms, less than 22 K Ohms (Pin-Jack)
<b>External Control (IN/THROUGH OUT)</b>	mini D-SUB 15pin (IN/THROUGH OUT)
<b>SOUND Output Internal External</b>	2.5W+2.5W (THD 10%) at 16 Ohm 5W+5W (THD 10%) at 8 Ohm
<b>Speaker</b>	Oval type 9 X 5.5 cm 16 Ohm, 2pcs.
<b>Display Colors</b>	Analog Input: Unlimited colors
<b>Synchronization Range</b>	Horizontal: XP29Plus: 15.7/31 KHz to 95 KH XM29Plus: 15.7/31 KHz to 65 KHz (Automatically) Vertical: 40 Hz to 120 Hz (Automatically)

<b>Maximum Resolution</b>	RGB 1024(H) X 768(V) pixels VIDEO Horizontal: 500 lines /S-VIDEO Horizontal : 600 lines
<b>Video Bandwidth</b>	RGB: 60 MHz at-3dB (Note that source is RGB2 and in HIGH CONTRAST, MODE2 or AUTO at 40 kHz or over is selected.) VIDEO: 5 MHz at-3dB
<b>Display Area</b>	RGB : 95% Scan (Typically) VIDEO: 7% Overscan
<b>Retrace Time</b>	Horizontal: 15.75kHz; 10µsec, 31kHz<fH<66kHz; 3.6µsec, 66kHz<fH; 2.7µsec Vertical: 0.4 msec
<b>Current Rating</b>	AC 100-120 V/220-240 V, 50/60 Hz
<b>Power Consumption</b>	XP29 Plus(XP-2990): 3.5 A (maximum) / XM29 Plus(XM-2960): 3.5A (maximum)
<b>Dimensions</b>	645(W) x 533(H) x 518(D) mm / 25.4(W)X21(H)X20.4(D) inches
<b>Weight</b>	53.5 kg / 118.0 lbs
<b>Environmental Considerations</b>	Operating Temperature : 0°C to 40°C Humidity : 0 to 90% Altitude : 0 to 10,000 feet Storage Temperature : -10°C to 50°C Humidity : 0 to 95%

<b>Regulations :</b>	Altitude : 0 to 45,000 feet UL Approved (UL 1950) CSA certified Meets FCC class A requirements Meets DHHS requirements Meets RED ACT
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All specifications are subject to change without notice.

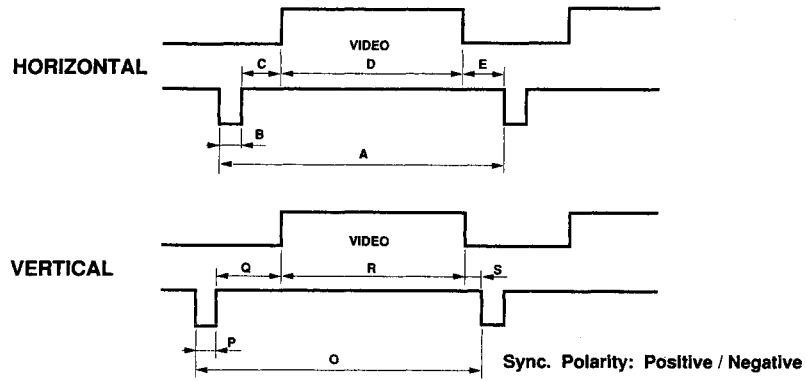
Dimensions



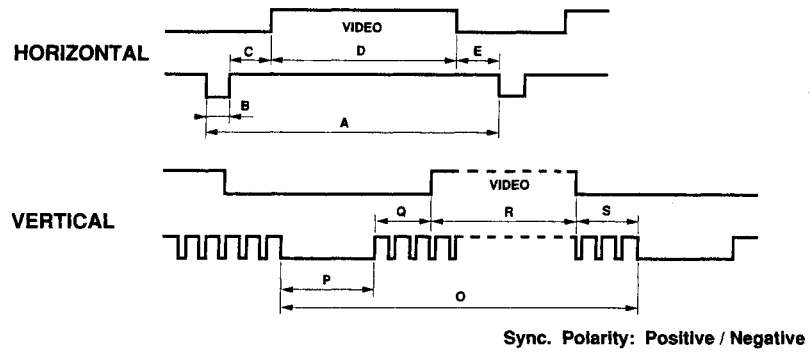
# Timing Charts

## Input Signal Reference Chart

Separate Sync.

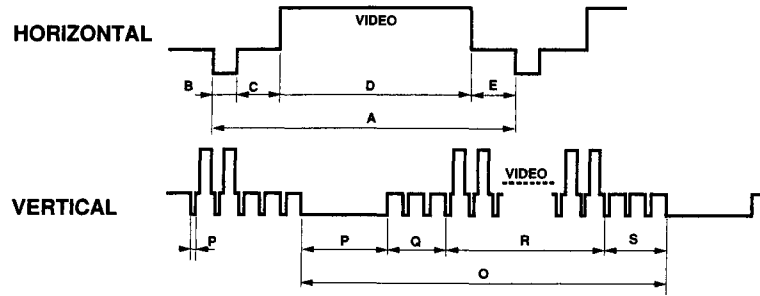


Composite Sync.





Composite Sync. & Video (Sync. on Green)



Sync. Polarity: Negative

Recommended Sync Signal Timing

- Horizontal Duty should be 3 to 30%.
- Horizontal sync width should exceed 0.9  $\mu$ sec.
- Horizontal back porch should exceed 2.0  $\mu$ sec at sync on green and 1.2  $\mu$ sec at others except when at 15KHz.
- Horizontal blanking should exceed: 15.75: 10 $\mu$ sec, 31KHz < fH < 66KHz: 3.6  $\mu$ sec, 66KHz < fH: 2.7  $\mu$ sec.
- Vertical Duty should be 0.2 to 10%.
- Vertical sync width should exceed 40  $\mu$ sec or 2 horizontal lines.
- Vertical sync width plus back porch should exceed 0.4 msec.
- Interlaced signals are not recommended.
- Interlaced signals with composite sync may not be displayed.

**Typical Input Signal Timing**

	VGA Compatible			XGA-2 Compatible			Mac II, Quadra, or LC Compatible
	640×350	720×400	640×480	720×350	720×400	640×480	640×480
Resolution	640×350	720×400	640×480	720×350	720×400	640×480	640×480
Horizontal Frequency	31.469KHz	31.469KHz	31.469KHz	39.444KHz	39.444KHz	39.375KHz	35.000KHz
(A) Horizontal Period	31.778μsec	31.778μsec	31.778μsec	25.352μsec	25.352μsec	25.397μsec	28.570μsec
(B) Horizontal Pulse Width	3.813μsec	3.813μsec	3.813μsec	3.042μsec	3.042μsec	3.048μsec	2.120μsec
(C) Horizontal Back Porch	1.589μsec	1.589μsec	1.589μsec	1.522μsec	1.522μsec	1.524μsec	3.170μsec
(D) Horizontal Active Area	26.058μsec	26.058μsec	26.058μsec	20.282μsec	20.282μsec	20.317μsec	22.810μsec
(E) Horizontal Front Porch	0.318μsec	0.318μsec	0.318μsec	0.508μsec	0.508μsec	0.508μsec	0.180μsec

	VESA 640×480 at 72Hz	VESA 800×600 at 56Hz	VESA 800×600 at 60Hz	VESA 800×600 at 72Hz	MAC II & Quadra	8514/A & XGA Interfaced Compatible	VESA 1024×768 at 60Hz
Resolution	640×480	800×600	800×600	800×600	832×624	1024×768	1024×768
Horizontal Frequency	37.860KHz	35.156KHz	37.879KHz	48.077KHz	49.725KHz	35.587KHz	48.363KHz
(A) Horizontal Period	26.413μsec	28.444μsec	26.400μsec	20.800μsec	20.111μsec	28.100μsec	20.677μsec
(B) Horizontal Pulse Width	1.270μsec	2.000μsec	3.200μsec	2.400μsec	1.117μsec	3.910μsec	2.092μsec
(C) Horizontal Back Porch	4.063μsec	3.556μsec	2.200μsec	1.280μsec	3.910μsec	1.247μsec	2.462μsec
(D) Horizontal Active Area	20.317μsec	22.222μsec	20.000μsec	16.000μsec	14.524μsec	22.760μsec	15.754μsec
(E) Horizontal Front Porch	0.762μsec	0.667μsec	1.000μsec	1.120μsec	0.559μsec	0.178μsec	0.369μsec

\*VGA, XGA, XGA-2, and 8514/A are the trademarks of International Business Machines Corporation.

\*Macintosh II, Quadra, and LC are the trademarks of Apple Computer Inc.

\*VESA is the trademark of a non-profit organization, Video Electronics Standards Association.

	VGA Compatible			XGA-2 Compatible			Mac II, Quadra, or LC Compatible
	640×350	720×400	640×480	720×350	720×400	640×480	
Resolution	640×350	720×400	640×480	720×350	720×400	640×480	640×480
Vertical Frequency	70.080Hz	70.080Hz	59.940Hz	87.850Hz	87.850Hz	75.000Hz	66.667Hz
(O) Vertical Period	14.268msec	14.268msec	16.683msec	11.383msec	11.383msec	13.333msec	15.000msec
(P) Vertical Pulse Width	0.064msec	0.064msec	0.064msec	0.051msec	0.051msec	0.051msec	0.090msec
(Q) Vertical Back Porch	1.716msec	0.890msec	0.793msec	1.496msec	0.862msec	0.813msec	1.110msec
(R) Vertical Active Area	11.504msec	13.156msec	15.762msec	8.873msec	10.141msec	12.190msec	13.710msec
(S) Vertical Front Porch	0.985msec	0.159msec	0.064msec	0.963msec	0.329msec	0.279msec	0.090msec

	VESA 640×480 at 72Hz	VESA 800×600 at 56Hz	VESA 800×600 at 60Hz	VESA 800×600 at 72Hz	MAC II & Quadra	8514/A & XGA Interlaced Compatible	VESA 1024×768 at 60Hz
Resolution	640×480	800×600	800×600	800×600	832×624	1024×768	1024×768
Vertical Frequency	72.809Hz	56.250Hz	60.317Hz	72.187Hz	74.550Hz	86.960Hz	60.000Hz
(O) Vertical Period	13.735msec	17.778msec	16.579msec	13.853msec	13.414msec	11.499msec	16.667msec
(P) Vertical Pulse Width	0.079msec	0.057msec	0.106msec	0.125msec	0.060msec	0.112msec	0.124msec
(Q) Vertical Back Porch	0.740msec	0.626msec	0.607msec	0.478msec	0.784msec	0.577/0.563msec	0.600msec
(R) Vertical Active Area	12.678msec	17.067msec	15.840msec	12.480msec	12.549msec	10.824msec	15.880msec
(S) Vertical Front Porch	0.238msec	0.028msec	0.026msec	0.770msec	0.020msec	0.000/0.014msec	0.062msec

Signal Identification for Raster Preset

MODE	Polarity		State		Frequency		NEC PRESET	USER PRESET	REMARKS
	Hor	Ver	Hor	Ver	Hor	Ver			
MODE1 15.5-16.0KHz	-	-	-	-	-	-	YES-1	YES-1	NTSC
								YES-2	RGB 15kHz
								YES-3	PAL/SECAM
MODE2 30-32.5KHz	NEG	NEG	-(H)	-(H)	-	-	YES-3	YES-4	VESA I-Standard 640x480(31.5KHz/60Hz)
	POS	POS	-(H)	-(H)	-	-	-	YES-4	-
	POS	NEG	H	H	-	-	-	YES-5	IBM 640x350(31.5KHz/71Hz)
	NEG	POS	H	H	-	-	-	YES-6	IBM 640x400(31.5KHz/71Hz)
MODE3 32.5-34.4KHz	(NEG)	(NEG)	-(H)	-(H)	-	-	-	YES-7	HDTV(33.75KHz/60Hz)
	-	-	-	-	-	-	-	-	-
MODE4 34.4-36.5KHz	(POS)	(POS)	H	H	-	80 or less	YES-4	YES-8	VESA 800x600 (35.1KHz/56Hz)
						80 or greater	-	YES-9	VESA I-Standard 1024x768 (35.5KHz/87Hz)
	-	-	-	L	-	-	YES-5	YES-10	MAC 640x480(35KHz/67Hz)
MODE5 36.5-42KHz	NEG	(NEG)	H	H	-	-	-	YES-11	VESA 640x480(37.5KHz/75Hz)
	POS	NEG	H	H	-	-	-	YES-11	-
	POS	POS	H	H	-	-	YES-6	YES-12	VESA 800x600(37.9KHz/60Hz)
	-	-	-	L	-	-	-	YES-13	REUTER 640x480(38.4KHz/72Hz)
MODE6 42-45KHz	-	-	-	-	-	-	-	YES-14	VESA 640x480 (43.3KHz/85Hz)
MODE7 45-49KHz	NEG	(NEG)	H	H	-	-	YES-7	YES-14	VESA 1024x768 (48.4KHz/60Hz)
	POS	NEG	H	H	-	-	-	YES-14	-
	POS	POS	H	H	-	-	-	YES-15	VESA 800x600(46.9KHz/75Hz)
	-	-	-	L	-	-	-	YES-16	REUTER 800x600 (48.1KHz/72Hz)
MODE8 49-51kHz	(NEG)	(NEG)	H	H	-	-	-	YES-17	H-98 1120x750 (50.0KHz/60.1Hz)
	-	-	-	L	-	-	YES-8	YES-18	MAC 832x624 (49.7KHz/75Hz)
MODE9 51-57.5KHz	(NEG)	(NEG)	(H)	(H)	-	-	YES-9	YES-19	VESA 1024x768 (56.5KHz/70Hz)
MODE10 57.5-62KHz	(POS)	(POS)	H	H	-	-	YES-10	YES-20	VESA 1024x768 (60.0KHz/75Hz)
	-	-	-	L	-	-	-	YES-21	MAC 1024x768 (60.2KHz/75Hz)
MODE11 62-70KHz	(NEG)	(NEG)	(H)	H	-	-	YES-11	YES-22	VESA 1280x1024 (64.0KHz/60Hz)
	-	-	-	-	-	-	-	YES-22	VESA 1024x768 (68.7KHz/85Hz)
	-	-	-	L	-	-	-	YES-23	MAC 1152x870 (68.7KHz/75Hz)
MODE12 70-79KHz	-	-	-	-	-	-	-	YES-24	VESA 1600x1200 (75kHz/60Hz)
MODE13 79-83KHz	(POS)	(POS)	(H)	(H)	-	-	YES-12	YES-24	VESA 1280x1024 (80.0KHz/75Hz)
MODE14 83-89.5kHz	-	-	-	-	-	-	-	YES-25	VESA 1600x1200 (87.5kHz/70Hz)
MODE15 89.5-95KHz	(POS)	(POS)	(H)	(H)	-	-	YES-13	YES-25	VESA 1600x1200 (93.8KHz/75Hz)

NOTE: L=NEG.SYNC H=POS.SYNC "-" or "(" = ignored  
 Factory : 13 (10 preset for XM29 Plus) User : 25 (22 preset for XM29 Plus)  
 The modes 11 (VESA 1024x768 and MAC 1152x870) and 12 to 15 apply to XP29 Plus only.

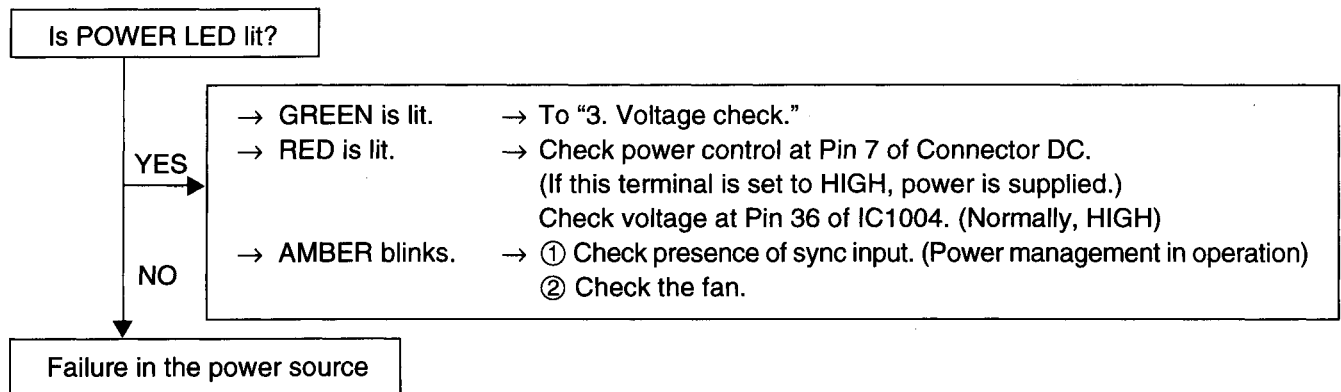
# TROUBLESHOOTING

## 1. Power failure

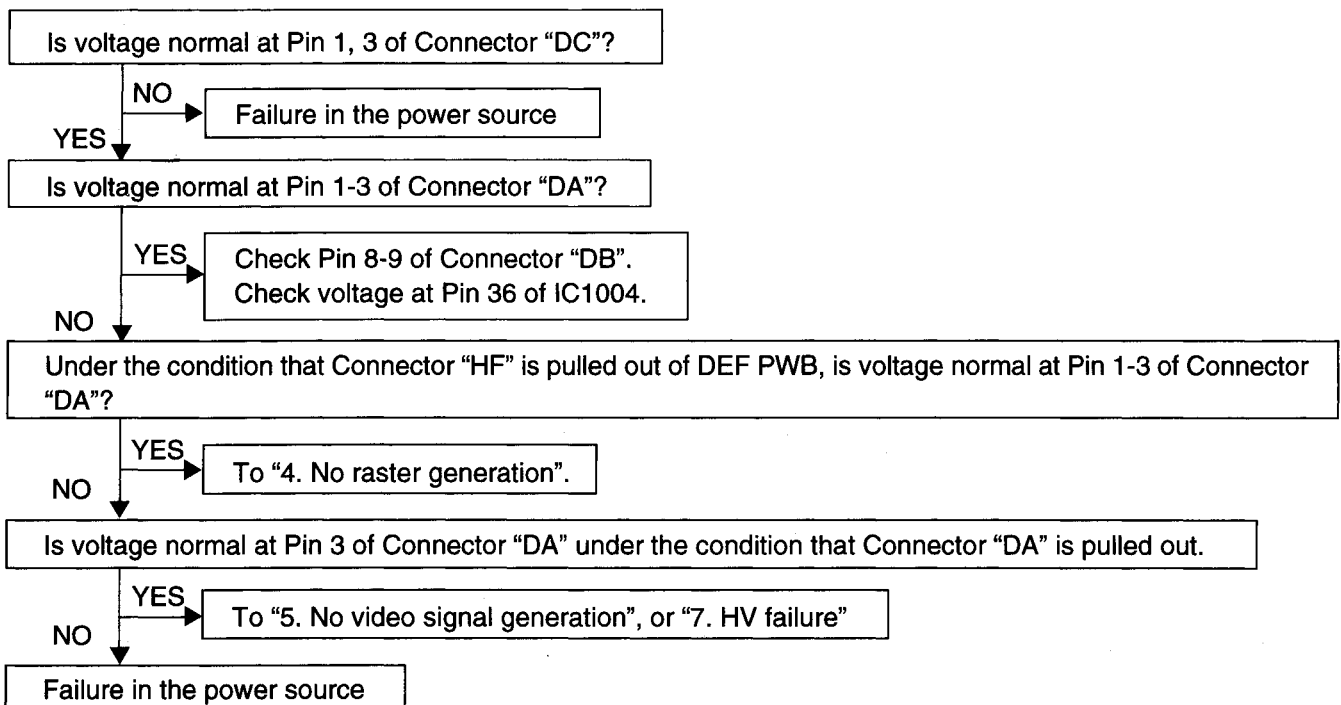
Check whether the output voltages from the power supply are as specified below.

Connector name	PIN No.	Voltage	
DA	1	+220V	Horizontal deflection and video output bias source
DA	3	+155V	HV, video AMP, and horizontal drive
			Vertical pump-up source
DB	1	-22.55V	Vertical deflection source
DB	3	+22.55V	Vertical deflection source
DB	4	+27V	Each circuit source
DB	6	+22.55V	Audio AMP source
DB	8, 9	+15V	Each circuit source
DC	1	+12V	Each circuit backup source
DC	3	+7.5V	CPU and each circuit backup source
DC	5	+6.3V	Heater source

## 2. Mains source failure

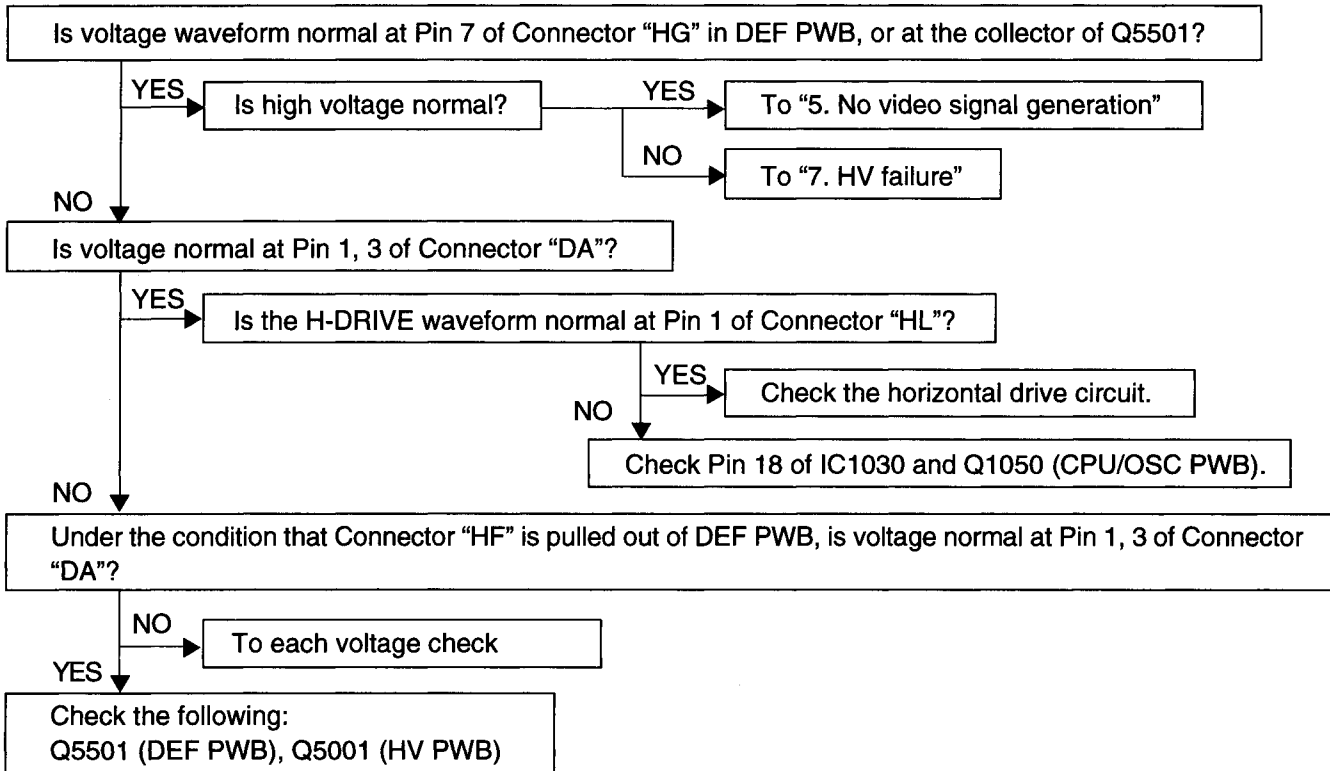


## 3. Voltage check

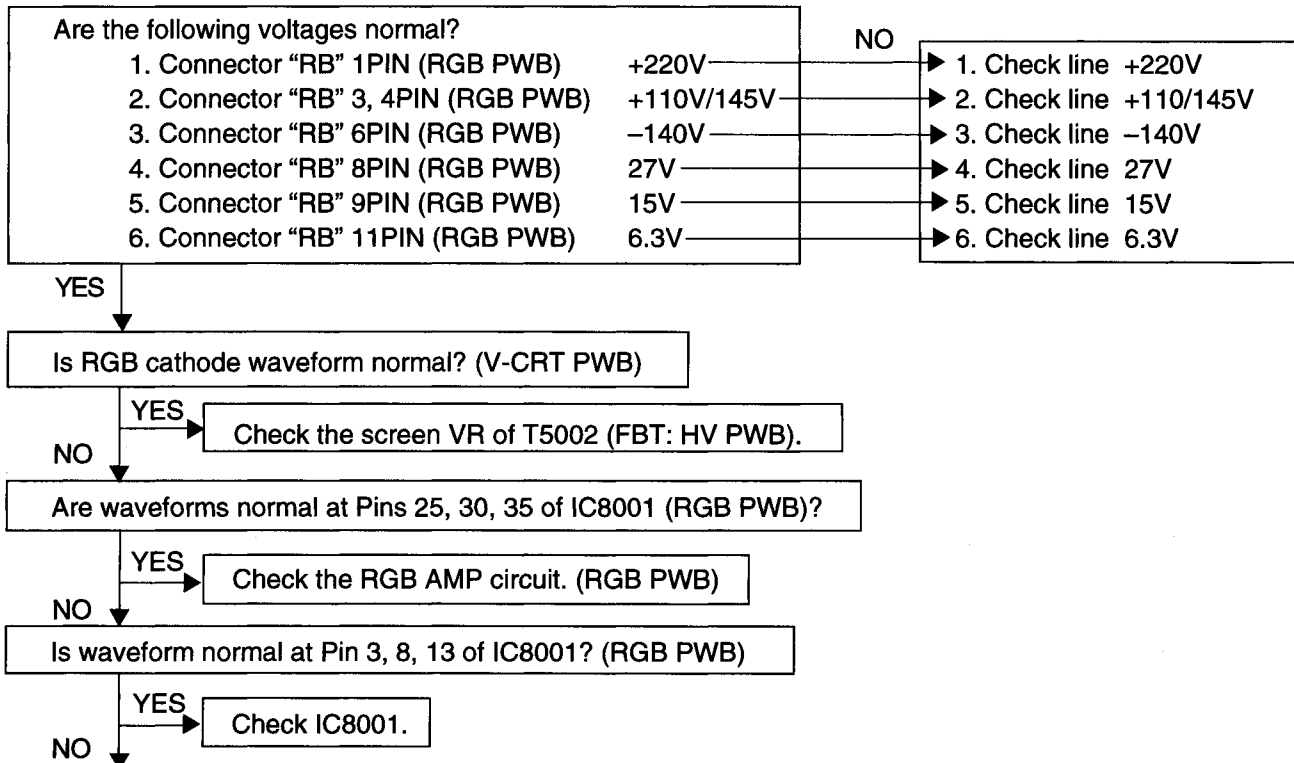


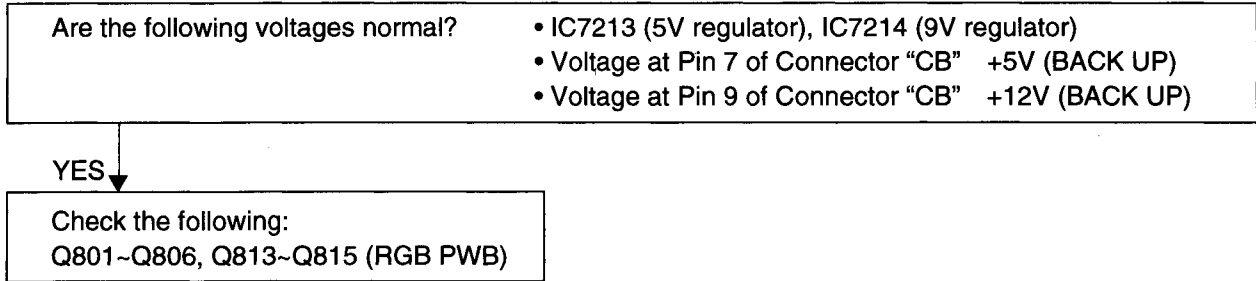
# TROUBLESHOOTING

## 4. No raster generation

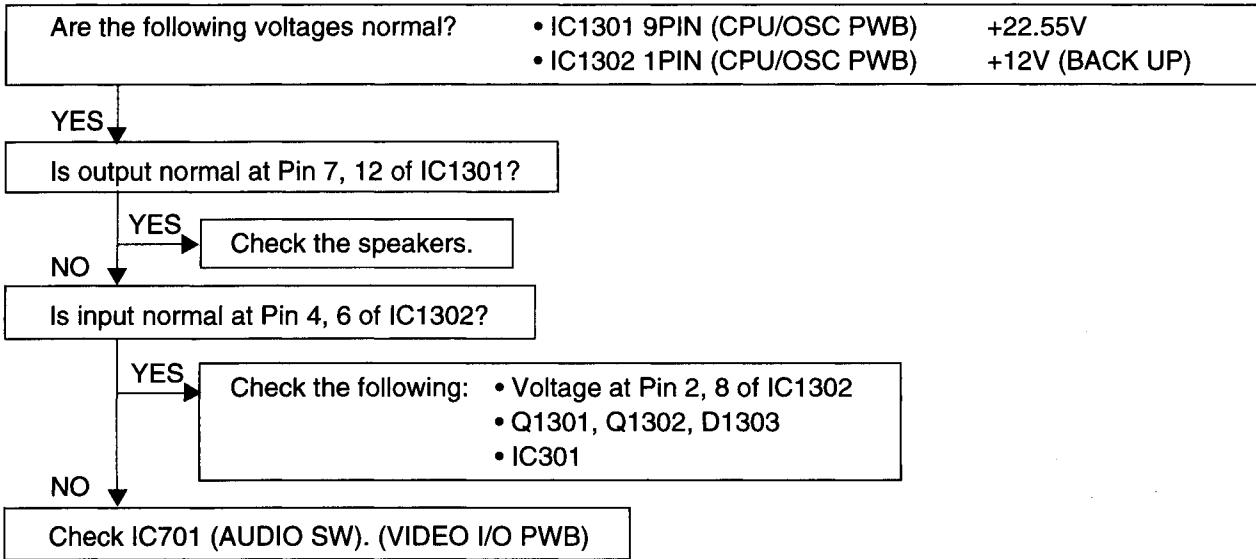


## 5. No video signal generation

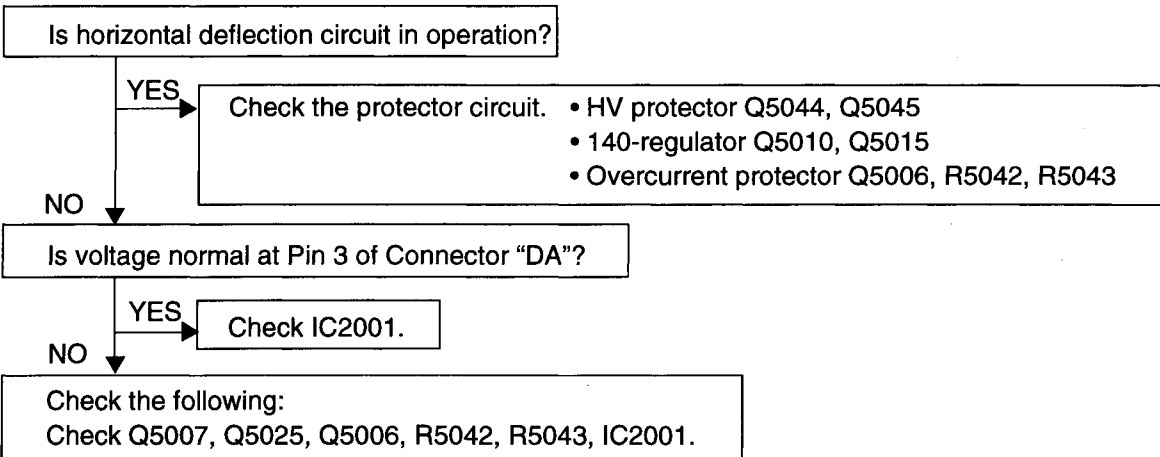




**6. No sound generation**



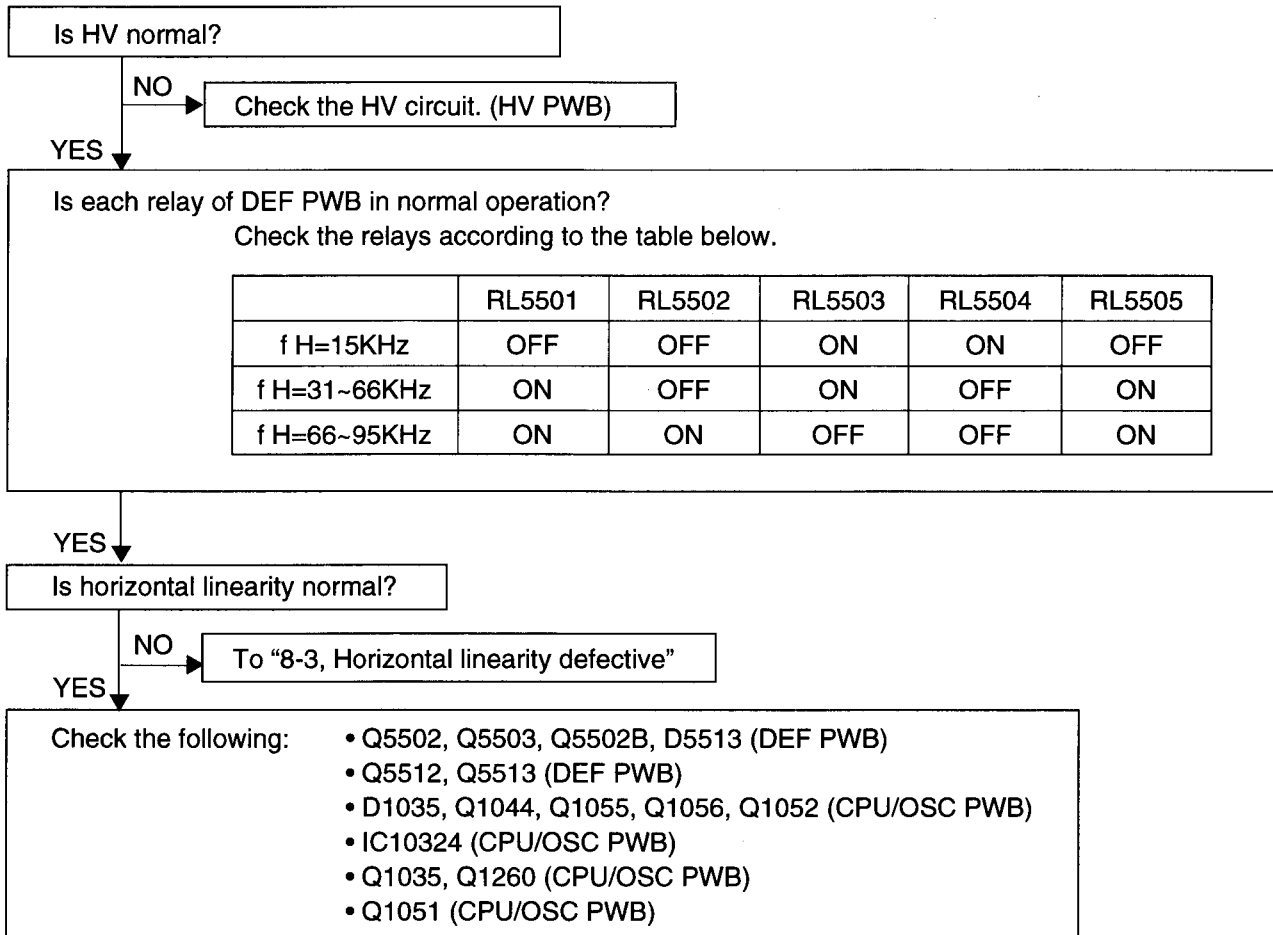
**7. HV failure**



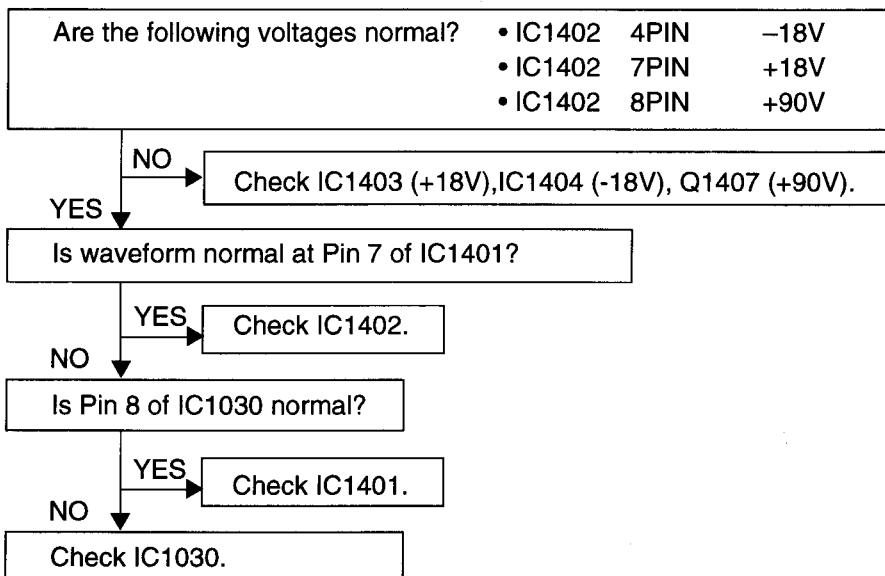
# TROUBLESHOOTING

## 8. Raster defective

### 8-1. Horizontal amplitude defective



### 8-2. Vertical deflection defective (CPU/OSC PWB)

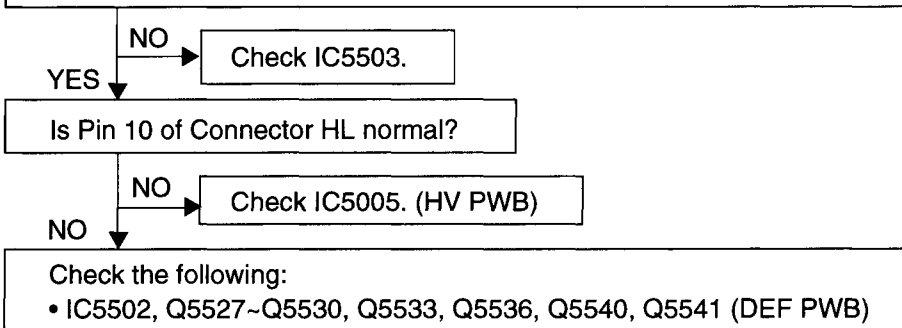




**8-3. Horizontal linearity defective**

Check the changeover conditions of the following Character-S capacitors.

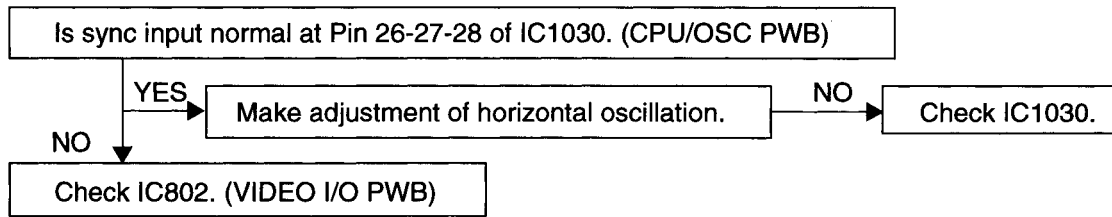
MODE	Frequency range	Vertical	Q5526	Q5525	Q5524	Q5522	Q5523	Q5521	Q5520
MODE1	15.7KHz		ON	ON	ON	ON	ON	ON	ON
MODE2	31~32.5KHz		ON	ON	ON	ON	ON	ON	OFF
MODE3	32.5~34.4KHz		ON	ON	ON	ON	ON	OFF	OFF
MODE4	34.4~36.5KHz	> 80Hz	ON	ON	ON	ON	ON	OFF	OFF
		< 80Hz	ON	ON	OFF	ON	ON	OFF	OFF
MODE5	36.5~42KHz		OFF	OFF	OFF	ON	ON	OFF	OFF
MODE6	42~45KHz		OFF	OFF	ON	OFF	ON	OFF	OFF
MODE7	45~49KHz		ON	ON	OFF	ON	OFF	OFF	OFF
MODE8	49~51KHz		ON	OFF	OFF	ON	OFF	OFF	OFF
MODE9	51~57.5KHz		OFF	OFF	OFF	ON	OFF	OFF	OFF
MODE10	57.5~62KHz		ON	ON	ON	OFF	OFF	OFF	OFF
MODE11	62~70KHz	< 80Hz	ON	OFF	ON	OFF	OFF	OFF	OFF
		> 80Hz	OFF	OFF	ON	OFF	OFF	OFF	OFF
MODE12	70~79KHz		ON	ON	OFF	OFF	OFF	OFF	OFF
MODE13	79~83KHz		OFF	ON	OFF	OFF	OFF	OFF	OFF
MODE14	83~89.5KHz		ON	OFF	OFF	OFF	OFF	OFF	OFF
MODE15	89.5~95KHz		OFF	OFF	OFF	OFF	OFF	OFF	OFF



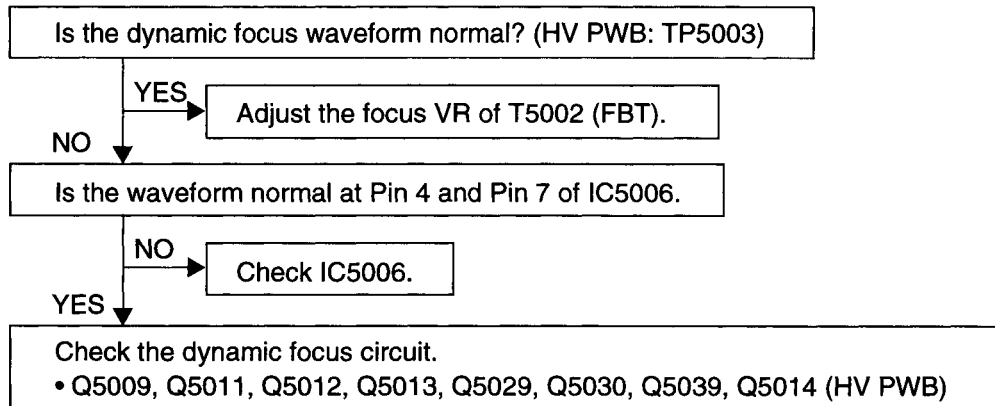
## TROUBLESHOOTING

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### 9. Synchronism defective



### 10. Focus defective



# METHOD OF ADJUSTMENTS

## Adjustment items

1. Factory preset mode
2. Adjustment of horizontal-frequency oscillation (Adjustable in a board unit)
3. Power block check
4. Adjustment of HV block (Adjustable in a board unit)
  - 4-1. HV adjustment
  - 4-2. HV protector adjustment
5. Audio balance adjustment (Adjustable in a board unit)
6. Horizontal size adjustment
7. Vertical position and size adjustment
8. Adjustment of the VIDEO processing system (VIDEO I/O board)
9. White balance adjustment
10. Raster adjustment
11. Dynamic focus waveform adjustment (HV board)
12. Adjustment of video D/A control
13. HV protector operation check
14. Special setting
15. Timing chart

## 1. Factory setting mode

If there is a description of "ENTER FACTORY SETTING MODE" elsewhere in the adjustment items of this text, enter the factory setting mode by the following method:

- ① Turn off the POWER switch on the front panel.
- ② Pressing the VIDEO1 key of the FRONT switch, turn on the POWER switch on the front panel.
- ③ While the input status (VIDEO1, 2, RGB1, 2) is displayed, release the VIDEO1 key and press the remote control keys in the order of [▲] key → [PROCEED] → [PROCEED].  
→ In this state, OSM MENU (icon in red) of the factory setting mode is displayed.

\* If the following operation is performed in the factory setting mode, enter the factory setting mode again by the above-mentioned method:

- Front POWER switch OFF
- Power outlet OFF

## 2. Oscillation adjustment for horizontal frequency (adjustable in board unit)

- (1) Connect the RGB signal of horizontal frequency just at 100kHz to the RGB1 (D-SUB) connector.  
**Note:** If it is not RGB1, automatic adjustment cannot be performed normally.
- (2) Keep the 3-pin HF mini-connector disconnected on the DEF board.
- (3) Confirm that the POWER switch is OFF, and connect a power cord.
- (4) Turn on the POWER switch. At that time, when turning on this POWER switch, keep the PUSH switch with the circuit symbol SW1001 pressed on the CPU/OSC board. → The power LED in red flashes. ●●● The oscillation adjusting mode is displayed.
- (5) Connect a frequency counter to TP1004 (about 12Vp-p) <for board adjustment> of the CPU/OSC board or connector HL1 <for set adjustment> of the DEF board.  
Then, adjust VR1001 (horizontal oscillation VR) on the CPU/OSC board to a horizontal frequency of  $15.734\text{KHz} \pm 100\text{Hz}$ .
- (6) After adjustment, select RGB1 using the source changeover key.
- (7) When the power LED turns its mode from flashing red to lighting red, this means the completion of adjustment.  
→ Adjustment is completed for horizontal 15kHz and 31kHz ~ 100kHz.  
In the case of failure in normal adjustment, the Power LED is turned from red flashing to amber color.  
In such a case, adjustments should be performed again or peripheral circuits and connections should be checked.
- (8) Return the disconnected HF connector of the DEF board to its original position.

## METHOD OF ADJUSTMENTS

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### 3. Power supply check (set check)

- (1) Confirm that AC input voltage is maintained at 120Vrms and 60Hz.
- (2) 220Vdc line check  
Use a DC voltmeter and confirm that the voltage between connectors "DA1" ~ "DA 2 (GND)" of the DC-PS unit is maintained within the range of  $220V \pm 6.6V$ .

### 4. HV block adjustment (adjustable in board unit)

#### 4-1. HV block adjustment

- (1) Move screen VR of FBT to MIN position.
- (2) Move VR2001 of HV setting VR to MIN position on the HV board (fully counterclockwise).
- (3) Keep VR2002 staying in MIN position so that the HV protector does not operate.
- (4) Make connections for video signals (all white).
- (5) Connect an HV meter and turn on the POWER SW.
- (6) Slowly raise the voltage with VR2001, adjusting it to  $29.0kV \pm 0.3kV$ .
- (7) Fix VR2001 to the cap using silicone rubber, and confirm that the indication at the HV meter does not deviate from  $29.0KV \pm 0.3KV$ . Since then, disconnect the HV meter.

#### 4-2. Adjustment of standard -140V for the HV protector

- (1) Move the FBT screen VR to the MIN position (fully counterclockwise).
- (2) Connect a signal (cross hatch) of 1024 x 768 @ 60Hz to the RGB.  
→ Horizontal frequency: 48KHz                      Vertical frequency: 60Hz
- (3) Connect a DC voltmeter to the negative side of C5055 or pin 6 of the connector RB on the HV board. Adjust VR2002 until a voltage of -140V is secured. Adjustment accuracy is within  $\pm 2V$ .
- (4) Fix VR2002 to the cap using silicone rubber, and confirm that the adjustment accuracy is kept within  $\pm 2V$ . Since then, disconnect the HV meter.

### 5. Audio balance adjustment (adjustable in board unit)

- (1) Apply a signal of output 1KHz/0.5Vrms to the monaural side. \*
- (2) Adjust the GND level of the oscilloscope at the CPU/OSC board and make the following connections :
  - CH1      To TP1001
  - CH2      To TP1002 (About 18Vp-p max.)
- (3) Move the volume setting to the maximum level with a remote control transmitter. (For electrified jigs, adjust the jig-on VR to about 10Vp-p.)
- (4) Adjust VR1301 so that the amplitude of CH1 waveform coincides with that of CH2.

\* In the case of board-unit adjustments, use the following pins of connector "CA" for inputs :  
No. 1 (LEFT IN), No. 2 (GND), No. 3 (RIGHT IN), No. 4 (GND)  
Use the following pins of connector "CA" for outputs :  
No. 5 (LEFT OUT), No. 6 (GND), No. 7 (RIGHT OUT), No. 8 (GND)  
Connect a dummy load of SW to the output side.

### 6. Adjustment of horizontal size and center

\* As required during adjustments, make adjustment of SIDE PIN and ALIGN also.

#### 6-1. Size adjustment

- (1) Connect RGB signals:
  - XP-2990/G : VESA 1024 x 768 @85Hz, Horizontal 68.68kHz.
  - XM-2960/G : MACII 13" MODE 640 x 480 @67Hz, Horizontal 35kHz.
  - Cross-hatch pattern (white lines on black background)
- (2) Move VR1201 of the CPU/OSC board to the MIN position (fully counterclockwise).
- (3) Slowly raise the screen VR until images come to be seen. Otherwise, press the PROCEED key of the remote control to a degree the ON screen can be seen.
- (4) Secure H-WIDTH: MAX / SCAN SEL: OVER, using a remote control.
- (5) Slowly raise the horizontal size using VR1201 of the CPU/OSC board. Make adjustments until images attain 100% MAX SCAN.

#### 6-2. Center adjustment

- (1) Enter the factory setting mode.
- (2) Connect RGB signals:
  - XP-2990/G : VESA 1600 x 1200 @75Hz (93.8kHz).
  - XM-2960/G : VESA 1280 x 1024 @ 60Hz (64.6kHz).
- (3) Raise the brightness and adjust the raster (black part) so that it comes to float. If it does not float, raise the screen using VR of the FBT. For readjustment, white balance must also be adjusted again.
- (4) Adjust H-CENTER and H-WIDTH so that raster comes to coincide with the CRT edge.

### 7. Vertical position and size adjustment (CPU/OSC board)

#### 7-1. Position adjustment

- (1) Enter the factory setting mode.
- (2) Set the input signal:
  - XP-2990/G : VESA 1600 x 1200 @ 75Hz (93.8kHz).
  - XM-2960/G : VESA 1280 x 1024 @ 60Hz (64.6kHz).
  - (Cross hatch/white line on black background)
- (3) Set V-position on the OSM menu at "63" of the center, using a remote control transmitter.
- (4) Set V-LIN 1 on the OSM menu at "15" of the center, using the remote control transmitter.
- (5) Set V-LIN 2 on the OSM menu at "15" of the center, using the remote control transmitter.
- (6) Raise the brightness and adjust the raster (black part) so that it comes to float. If it does not float, raise the screen using VR of the FBT. For readjustment, white balance must also be adjusted again.
- (7) Using the VR1401 on the CPU/OSC board, set the vertical position so that the raster comes in the center.  
**Note** : Adjust the raster position to the center within  $\pm 2$ mm.

#### 7-2. Size adjustment

- (1) Enter the factory setting mode.
- (2) Enter the RGB signal (cross hatch) of VESA 640 x 400 @ 85Hz.
- (3) Make adjustments of LINEAR1, 2 on the OSM menu, using a remote control transmitter.
  - Make adjustments until the difference between the center of each block and the upper/lower end width is within 0.5mm.

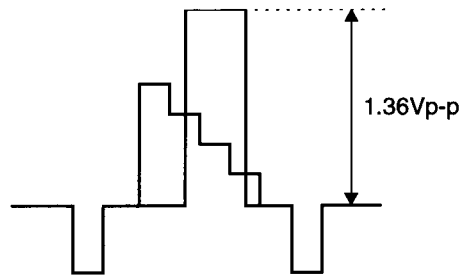
## METHOD OF ADJUSTMENTS

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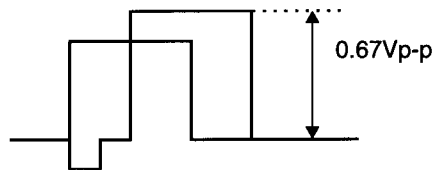
- (4) Adjust the V-POSITION so that the displayed position (cross-hatch indication) settles in the center of the V direction, using the remote control transmitter.
- (5) Adjust SCAN SEL to UNDER SCAN and V-HEIGHT to maximum, using the remote control transmitter.
- (6) Using the remote control transmitter, adjust V-HEIGHT LIMIT of FF on the OSM menu so that the display of the vertical direction appears to be 100% SCAN.

### 8. Adjustment of VIDEO processing system (VIDEO I/O board)

- (1) Confirm that the input terminal switch of VIDEO1 is terminated at  $75\Omega$ .
- (2) Enter a color bar signal input of NTSC in the BNC terminal of VIDEO1.
- (3) Adjust VR7401 so that the Y level (Y level after Y/C separation) at TP7401 of the VIDEO I/O board is set at  $1.36V_{p-p} \pm 0.01$  (level excluding the sync component).  
→ The oscilloscope should be used within the range of AC 200mV/div.



- (4) Remove input signal of VIDEO1 to assume a no-signal state. Adjust VR7201 (SET UP LEVEL ADJ.) so that the blanking level at TP7201 (green signal after RGB separation) is  $0.00V \pm 0.05V$  or less.
- (5) Enter a color bar signal input of NTSC in the input terminal of VIDEO1.
- (6) Adjust VR7202 (OUTPUT GAIN) so that the level at TP7201 attains  $0.67V_{p-p} \pm 0.01V$ .  
→ The oscilloscope should be used within the range of AC 100mV/div.



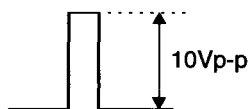
### 9. White balance adjustment

This adjustment shall be conducted to the end, without interruption of power-OFF, etc. in the course of adjustments.

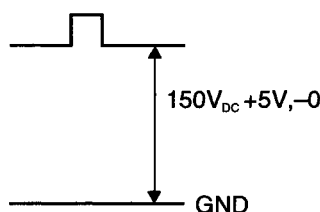
- (1)
  - Move the FBT screen VR to the MIN position (fully counterclockwise).
  - Secure an all-black signal of RGB 640 x 480 @ 60Hz.
  - Connect an oscilloscope to TP902 of the V-CRT board, and set up this oscilloscope to 2V/div.
- (2) Assume the factory adjustment mode.
- (3) Select RGB and raise the screen VR setting until an ON-screen can be seen.

## METHOD OF ADJUSTMENTS

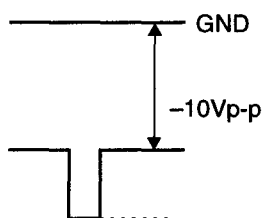
- (4) Using a remote control transmitter, set up HIGH CONTRAST on the OSM menu at MODE 1. Also using the remote control transmitter, adjust BRIGHTNESS LIMIT D/A so that the waveform (blanking level of the green cathode stage) is controlled to  $10V_{p-p} \pm 0.2V_{p-p}$ .



- (5) Using the remote control transmitter, set up HIGH CONTRAST on the OSM menu at MODE2. Also using this remote control transmitter, adjust BRIGHTNESS LIMIT D/A so that the waveform (blanking level of the green cathode stage) is controlled to  $10V_{p-p} \pm 0.2V_{p-p}$ .
- (5-1) After adjustments, use a remote control transmitter and set HIGH CONTRAST in MODE1 on the OSD menu. Also set COLOR TEMP at  $10500^{\circ}K$ .
- (6) Turn off the power supply with a remote control transmitter and adjust the screen VR to MIN.
- (7) Turn on S1401 of the CPU/OSC board for horizontal one-line setting.
- \* By factory mode and horizontal one-line setting, keys of the remote control transmitter are assigned as follows:
    - H WIDTH → R-BIAS
    - V HEIGHT → G-BIAS
    - SIDE PIN → B-BIAS
- (8) Turn on the power supply with the remote control transmitter and select RGB.
- (9) Using H WIDTH (R), V HEIGHT (G), and SIDE PIN (B) of the remote control transmitter, adjust the black level of the cathode stage to  $150V_{DC} + 5V, -0V$ .
- On the V-CRT board, the test pins used are TP901 for R, TP902 for G, and TP903 for B.
  - The oscilloscope should be used within the range of DC20V/div.



- (10) Connect the oscilloscope to TP G1 on the V-CRT board. Using the remote control transmitter, set the brightness at  $-10V \pm 0.5V$ .
- The oscilloscope should be used within the range of DC5V/div.

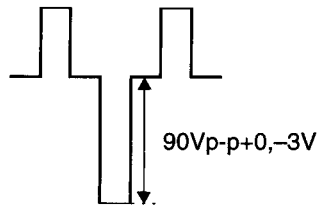


- (11) Slowly raise the screen VR setting clockwise and stop it where any of R, G, B begins to glow.
- (12) Using H WIDTH (R), V HEIGHT (G), and SIDE PIN (B) of the remote control transmitter, adjust the horizontal lines to white color.
- Note:** The horizontal line glowing first must not be changed.
- This D/A value is the D/A reference for all RGB BIAS setting.

## METHOD OF ADJUSTMENTS

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- (13) Turn off the power with the remote control transmitter and turn off S1401 to cancel the horizontal line.  
→ By this setting, all bias D/A values are transferred to the D/A that has been adjusted to the equivalent black level of 150V.
- (14) Turn on the power supply with the remote control transmitter.
- (15) Select RGB and control the signals to the window of 1/10H and 1/10V.
- (16) Using the remote control transmitter, set up HIGH CONTRAST to MODE1 on the OSM menu.
- (17) Using the remote control transmitter, adjust CONTRAST to MAX.
- (18) Using the remote control transmitter, set COLOR TEMP at 10500K on the OSM menu.
- (19) Using the remote control transmitter, obtain an adjustment screen of RGB GAIN/BIAS on the OSM menu.
- (20) Using R, G, B GAIN, set the swing of the cathode stage at each color of 90Vp-p +0, -3V.  
• On the V-CRT board, the test pins used are TP901 for R, TP902 for G, and TP903 for B.  
→ The oscilloscope should be used within the range of AC20V/div.  
\* After adjustment, the oscilloscope probe must be disconnected.



- (21) Treat Pin 4 (power management) of DIP SW for OFF → ON → OFF.  
→ The same data as those of RGB GAIN set for 10500K of the above-mentioned HIGH CONTRAST = MODE1 are transferred to the following:  
• 9300K and 6500K of MODE1  
• 10500K, 9300K, and 6500K of MODE2  
• 10500K, 9300K, and 6500K of VIDEO
- (22) Using the remote control transmitter, adjust RGB GAIN/BIAS on the OSM menu to obtain a color temperature of 10500K.  
\* Setting should be made to attain 10cd/m<sup>2</sup> on the darker side, and 140cd/m<sup>2</sup> on the brighter side.  
• For 10cd/m<sup>2</sup> setting, adjustments are made with RGB BIAS of the OSM menu. However, the first lighting color after screen adjustment as per (11) shall be fixed.  
• For 140cd/m<sup>2</sup> setting, adjustments are made with R and B GAIN of the OSM menu.  
→ G GAIN shall be fixed.  
The brightness is adjusted with CONTRAST of the remote control transmitter.
- (23) After completion of color temperature adjustment at 10500K, push the EXIT key of the remote control transmitter and select 9300K.
- (24) Get the adjustment screen of RGB GAIN/BIAS with the remote control transmitter.  
\* Setting should be made to attain 10cd/m<sup>2</sup> on the darker side, and 140cd/m<sup>2</sup> on the brighter side.  
• For 10cd/m<sup>2</sup> setting, adjustments are made with RGB BIAS of the OSM menu. However, the first lighting color after screen adjustment as per (11) shall be fixed.  
• For 140cd/m<sup>2</sup> setting, adjustments are made with R and B GAIN of the OSM menu.  
→ G GAIN shall be fixed.  
The brightness is adjusted with CONTRAST of the remote control transmitter.



## METHOD OF ADJUSTMENTS

- (25) After completion of color temperature adjustment of 9300K, select 6500K by pressing the EXIT key of the remote control transmitter.
- (26) Using the remote control transmitter, adjust RGB GAIN/BIAS on the OSM menu to obtain a color temperature of 6500K.
- \* Setting should be made to attain 10cd/m<sup>2</sup> on the darker side, and 140cd/m<sup>2</sup> on the brighter side.
  - For 10cd/m<sup>2</sup> setting, adjustments are made with RGB BIAS of the OSM menu. However, the first lighting color after screen adjustment as per (11) shall be fixed.
  - For 140cd/m<sup>2</sup> setting, adjustments are made with R and B GAIN of the OSM menu.  
→ G GAIN shall be fixed.  
The brightness is adjusted with CONTRAST of the remote control transmitter.
- (27) After completion of color temperature adjustment at 6500K, push the EXIT key of the remote control transmitter and select 10500K.
- (28) Set HIGH CONTRAST on the OSM menu to get MODE2 with the remote control transmitter.
- (29) Make operation of OFF → ON → OFF at Pin 4 (power management) of the DIP switch.  
→ After adjustments with MODE1, all data of GAIN/BIAS are transferred to the data area of MODE2.
- (30) Set CONTRAST at MAX with the remote control transmitter. Set COLOR TEMP of the OSM menu at 10500K.
- (31) Make further adjustments in the same manner as for (22) to (27).  
**Note:** The brightness on the brighter side is adjusted by setting CONTRAST at MAX.  
(80cd/m<sup>2</sup> or more shall be secured. Usually about 100cd/m<sup>2</sup>)
- (32) After completion of 6500K adjustment for HIGH CONTRAST = MODE2, COLOR TEMP is set at 10500K on the OSM menu with the remote control transmitter. Select VIDEO after setting HEIGHT CONTRAST at AUTO.
- (33) Get a color-bar signal for the input signal of VIDEO.  
**Note:** The probe of the color analyzer shall be applied to a white area, which is about 2cm lower than the color area.
- (34) Select RGB GAIN/BIAS on the OSM menu with the remote control transmitter. Then make operation of OFF → ON → OFF at Pin 4 (power management) of the DIP switch.  
→ After adjustments with MODE1, all data of GAIN/BIAS are transferred to the data area of VIDEO.
- (35) Make the same adjustments as for (22) to (27).
- (36) Set COLOR TEMP at 10500K on the OSM menu with the remote control transmitter.

Addenda: 10500K: x : 281 ± 5, y : 285 ± 5, - 5 MPCD  
9300K: x : 283 ± 5, y : 297 ± 5, + 8 MPCD  
6500K: x : 313 ± 5, y : 329 ± 5, + 7 MPCD

## **METHOD OF ADJUSTMENTS**

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### **10. Raster-related adjustments**

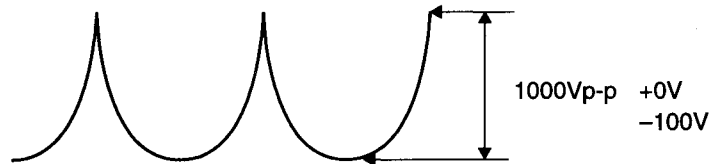
Factory adjustments are carried out for the signals specified in the separate signal table.

- (1) Assume the factory preset mode.
- (2) Inclination adjustment.  
Using the remote control transmitter and with ROTATION on the OSM menu, adjust the right and left upper/lower deviations until they reach the optimal points.  
\* However, this adjustment is carried out only for the first one signal since there is no memory for each signal.
- (3) Vertical position/vertical linearity adjustments
  - Using H POSITION and V POSITION of the remote control transmitter, adjust the center of the video in vertical directions to the center of the CRT tube plane.
  - Adjust the vertical amplitude to the same level for both H WIDTH and V HEIGHT of the remote control transmitter.
  - \* However, the horizontal and vertical sizes are as follows:  
    RGB : 95% ± 2%  
    VIDEO : Over-scan 10% +0%, -3% (both NTSC and PAL).
- (4) Side-pin adjustment  
Using the remote control transmitter, make adjustments with SIDE PIN and SIDE PIN CORNER on the OSM menu so that the value of distortion is kept within 3mm on one side.
- (5) Trapezoidal correction and adjustment  
Using the remote control transmitter, make adjustments with KEYSTONE on the OSM menu so that the upper/lower clearance gradient is kept within 3mm.
- (6) Using the remote control transmitter, make adjustments with TILT and SIDE PIN BALANCE on the OSM menu so that the vertical line in the center can be made upright.

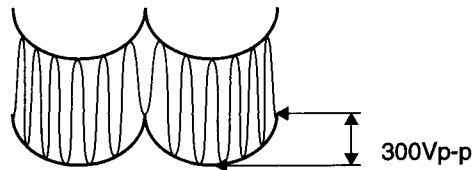
### **11. Adjustment of dynamic focus waveforms (HV board)**

- (1) Enter the factory setting mode.
- (2) Connect a 100:1 probe to TP5003.
- (3) Apply a signal (cross-hatch)  
XP-2990/G : 1600 x 1200 @ 75Hz (93kHz).  
XM-2960/G : 1280 x 1024 @ 60Hz (64.5kHz).
- (4) Set the remote control transmitter to obtain a 95% scan of an image for the following:
  - H POSITION
  - V POSITION
  - H WIDTH
  - V HEIGHT
- (5) Set up the oscilloscope to the horizontal rate.  
→ The oscilloscope should be used within the ranges of DC200V/div and 5μS/div.

- (6) Paying attention that the parabolic waveform does not collapse, use the remote control transmitter and adjust HD FOCUS on the OSM menu to get 1000Vp-p.



- (7) Set up the oscilloscope to the vertical rate.  
→ The oscilloscope should be used within the range of DC 200V/div and 2ms/div.
- (8) Paying attention that the parabolic waveform does not collapse, use the remote control transmitter and adjust VD FOCUS on the OSM menu to get 250 ~ 300Vp-p.



**12. Adjustment for video D/A control**

**12-1. BRIGHT/CONTRAST adjustment of VIDEO**

- (1) Enter the factory setting mode.
- (2) Apply a monoscopic signal to VIDEO1.  
\* Confirm that it is terminated at 75Ω.
- (3) Using the remote control transmitter, adjust the BRIGHT key so that 8% black becomes black.

- Monoscope reception
- Visual Control : Normal

The contrast chart should indicate black at the column of black 8%

(Should be clearly identifiable.)

40%	30%	20%	10%
50%	0%	0%	5%
60%	70%	80%	90%

(The boarder should be slightly identifiable.)

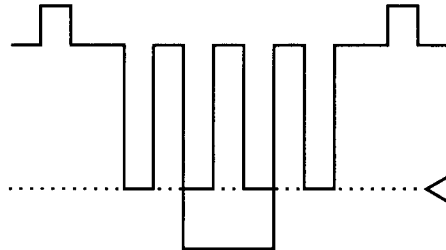
- (4) Change over the input signal to the window signal (1/10H, 1/10V).
- (5) Connect the oscilloscope probe to TP902 of the V-CRT board and adjust the CONTRAST key of the remote control transmitter to get 80Vp-p + 0Vp-p, -5Vp-p for the swing of the G-cathode stage.  
→ The oscilloscope should be used within the range of DC20V/div.

## METHOD OF ADJUSTMENTS

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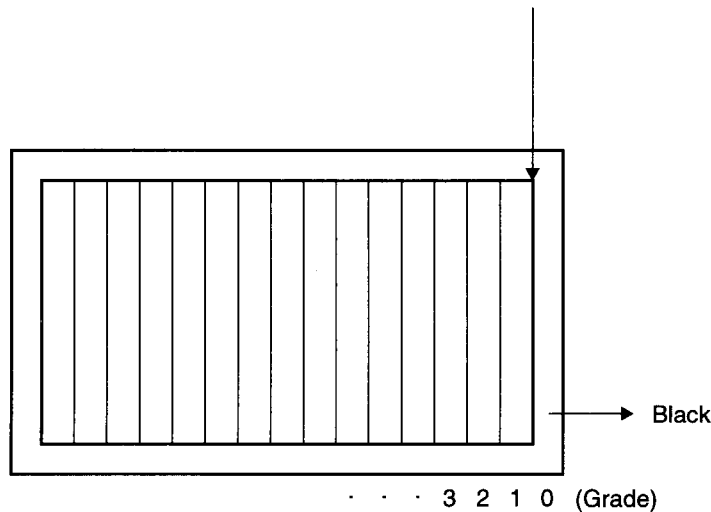
### 12-2. VIDEO COLOR/TINT adjustment

- (1) Assume the factory preset mode.
- (2) Apply a color-bar signal to VIDEO1.
- (3) Connect the oscilloscope probe to TP903 of the V-CRT board and adjust COLOR/TINT of the remote control transmitter to make the video waveform flat in the B-cathode stage.



### 12-3. RGB BRIGHT/CONTRAST adjustment

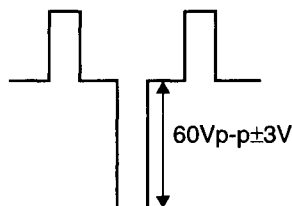
- (1) Assume the factory preset mode.
- (2) Enter a 16-grade gray scale signal of 640 x 480 to RGB2.
- (3) Using the remote control transmitter, set the HIGH CONTRAST mode at MODE1 on the OSM menu.
- (4) Using the BRIGHT key of the remote control transmitter, make adjustments so that the border line can be slightly discriminated between black and the first grade on the blacker side.



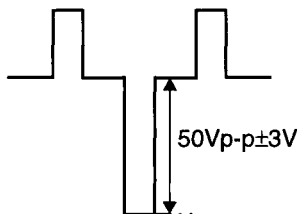
- (5) Change over the input signal to the window signal (1/10H, 1/10V).
- (6) Adjust the CONTRAST key of the remote control transmitter to get 70Vp-p + 0Vp-p, -5Vp-p for the swing of the V-CRT G-cathode stage.
- (7) Using the remote control transmitter, set the HIGH CONTRAST mode at MODE2 on the OSM menu.
- (8) Adjust the CONTRAST key of the remote control transmitter so that CONTRAST attains MAX.

### 12-4. OSD GAIN adjustment

- (1) Assume the factory preset mode.
- (2) Enter an all-black signal of 640 x 480 to RGB2.
- (3) Connect an oscilloscope to TP901 of the V-CRT board and set up this oscilloscope at AC10V/div.
- (4) Using the remote control transmitter, set the HIGH CONTRAST mode at MODE1 on the OSM menu.
- (5) Using the remote control transmitter, adjust OSD GAIN to 60Vp-p on the OSM menu.



- (6) Using the remote control transmitter, set the HIGH CONTRAST mode at MODE2 on the OSM menu.
- (7) Using the remote control transmitter, adjust OSD GAIN to 50Vp-p on the OSM menu.



### 13. Operation check for HV protector

- (1) Obtain a monoscopic display in VIDEO mode.
- (2) Turn off the POWER switch using the remote control transmitter.
- (3) Short-circuit the section between TP2001 and TP2002 of DEF/HV PWB.
- (4) Turn on the POWER switch using the remote control transmitter, and confirm that the HV protector functions and horizontal oscillation is stopped.
- (5) Turn off the POWER switch on the cabinet front and remove the short-circuit condition between TP2002 and TP2003. Turn on the POWER switch after 10 seconds again, in order to confirm that the set operates normally.

## METHOD OF ADJUSTMENTS

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### 14. Special setting

- (1) Get entered in the FACTORY mode.
- (2) Push ◀ (-) key and select FF on the OSM menu.
- (3) Push ▲ key and select SPECIAL!.
- (4) Push PROCEED key and enter in the setting screen.
- (5) Push ▲ key and select ADDRESS-27 (OTHERS INIT).
- (6) Confirm that ADDRESS-27 is 00.
- (7) If it is 00, push EXIT key and withdraw from the setting screen.
- (8) Close the FACTORY mode.

Complementary explanations : If ADDRESS-27 is not 00 in (6) above, get 00 with ◀ (-) key or ▶ (+) key.

After 00 setting, follow the procedures of (7) and (8) above.

\* Make sure not to change the values of setting items other than the above.

(Regarding the setting values, refer to the list of special setting initials on page 5-13.)

Icon Display	
OTHERS	INIT
ADDRESS-27	<u>00</u>
XPXM	OSM

## METHOD OF ADJUSTMENTS

List of initial data to be specially set

Address	Initial data	Items to be set
00	35	TA8880 WPL
01	35	TA8880 Aperture control
02	07	TA8880 Brightness
03	35	TA8880 P/N GP
04	06	TA8880 Unicolor
05	34	TA8880 Vertical mode
06	32	TA8880 Vertical phase control
07	04	TA8880 Horizontal phase control
08	34	TA8880 Mute mode
09	30	TA8880 BLK
10	26	TA8880 B/W
11	16	TA8880 X' tal mode
12	35	TA8880 PN amplitude
13	31	TA8880 SECAM amplitude
14	17	TA8880 BELL filter focus adjustment
15	08	TA8880 S GP
16	00	TA8880 S ID
17	29	TA8880 SECAM black label R-Y
18	03	TA8880 SECAM black label B-Y
19	35	TA8880 Search
20	31	TA8880 Blue back
21	26	TA8880 YNR
22	21	TA8880 AFC
23	02	TA8880 Selecting test mode
24	35	UPC1885 Selecting 500KHz mode
25	31	UPC1885 Selecting V-in POL
26	07	UPC1885 Selecting 20ms Dev
27	00	Selecting OSD/OSM & XPXM/PCKM

## METHOD OF ADJUSTMENTS

### 15. XP-2990 Timing chart for factory preset signals

F-No			A Total	B Sync TM	C back P	D Addr TM	E Front P	Sync polarity /Others
01	VIDEO (NTSC)							
02	VIDEO (PAL)							
03	I Standard 640 x 480@60Hz	H (us)	31.778	3.813	1.589	25.422	0.318	—
		V (ms)	16.683	0.064	0.794	15.253	0.064	—
04	MAC II (13 inch)	H (us)	28.58	2.12	3.17	22.81	0.18	Sync on Green
		V (ms)	15.0	0.09	1.11	13.71	0.09	Green
05	VESA 640 x 480@75Hz	H (us)	26.667	2.032	3.810	20.317	0.508	—
		V (ms)	13.333	0.080	0.427	12.800	0.027	—
06	VESA 1024 x 768@60Hz	H (us)	20.677	2.092	2.462	15.754	0.369	—
		V (ms)	16.666	0.124	0.600	15.880	0.062	—
07	MAC II (16 inch)	H (us)	20.111	1.117	3.910	14.524	0.559	Sync on Green
		V (ms)	13.414	0.06	0.784	12.549	0.02	Green
08	VESA 1024 x 768@70Hz	H (us)	17.707	1.813	1.920	13.653	0.320	—
		V (ms)	14.272	0.106	0.513	13.599	0.053	—
09	VESA 1024 x 768@75Hz	H (us)	16.660	1.219	2.235	13.003	0.203	+
		V (ms)	13.328	0.050	0.466	12.795	0.017	+
10	VESA 1280 x 1024@60Hz	H (us)	15.630	1.037	2.296	11.852	0.444	+
		V (ms)	16.661	0.047	0.594	16.005	0.016	+
11	VESA 1280 x 1024@75Hz	H (us)	12.504	1.067	1.837	9.481	0.119	+
		V (ms)	13.329	0.038	0.475	12.804	0.013	+
12	VESA 1600 x 1024@75Hz	H (us)	10.667	0.948	1.501	7.901	0.316	+
		V (ms)	13.333	0.032	0.491	12.800	0.011	+

- All video signals shall be analog.
- Numbers of the above signals correspond to the preset numbers on F/W.

### Timing chart for various adjusting signals used in other cases

F-No			A Total	B Sync TM	C back P	D Addr TM	E Front P	Sync polarity /Others
02	VESA 640 x 400@85Hz	H (us)	26.413	2.032	3.048	20.317	1.016	—
		V (ms)	11.754	0.079	1.083	10.565	0.026	+
06	VESA 1024 x 768@85Hz	H (us)	14.561	1.016	2.201	10.836	0.508	+
		V (ms)	11.765	0.044	0.524	11.183	0.015	+



**XM-2960 Timing chart**

F-No			A Total	B Sync TM	C back P	D Addr TM	E Front P	Sync polarity /Others
01	VIDEO (NTSC)							
02	VIDEO (PAL)							
03	I Standard 640 x 480@60Hz	H (us)	31.778	3.813	1.589	25.422	0.318	—
		V (ms)	16.683	0.064	0.794	15.253	0.064	—
04	MAC II (13 inch)	H (us)	28.58	2.12	3.17	22.81	0.18	Sync on Green
		V (ms)	15.0	0.09	1.11	13.71	0.09	Green
05	VESA 640 x 480@75Hz	H (us)	26.667	2.032	3.810	20.317	0.508	—
		V (ms)	13.333	0.080	0.427	12.800	0.027	—
06	VESA 1024 x 768@60Hz	H (us)	20.677	2.092	2.462	15.754	0.369	—
		V (ms)	16.666	0.124	0.600	15.880	0.062	—
07	MAC II (16 inch)	H (us)	20.111	1.117	3.910	14.524	0.559	Sync on Green
		V (ms)	13.414	0.06	0.784	12.549	0.02	Green
08	VESA 1024 x 768@70Hz	H (us)	17.707	1.813	1.920	13.653	0.320	—
		V (ms)	14.272	0.106	0.513	13.599	0.053	—
09	VESA 1024 x 768@75Hz	H (us)	16.660	1.219	2.235	13.003	0.203	+
		V (ms)	13.328	0.050	0.466	12.795	0.017	+
10	VESA 1280 x 1024@60Hz	H (us)	15.630	1.037	2.296	11.852	0.444	+
		V (ms)	16.661	0.047	0.594	16.005	0.016	+

- All video signals shall be analog.
- Numbers of the above signals correspond to the preset numbers on F/W.

**Timing chart for various adjusting signals used in other cases**

F-No			A Total	B Sync TM	C back P	D Addr TM	E Front P	Sync polarity /Others
02	VESA 640 x 400@85Hz	H (us)	26.413	2.032	3.048	20.317	1.016	—
		V (ms)	11.754	0.079	1.083	10.565	0.026	+
21	VESA 1280 x 1024@60Hz	H (us)	15.630	1.037	2.296	11.852	0.444	+
		V (ms)	16.661	0.047	0.594	16.005	0.016	+

# METHOD OF ADJUSTMENTS

## 16. Method of CRT/DY Adjustment

### [1. Parts]

Parts names	Parts codes
CRT : M68LMF256X	33029036
DY : KDY4UH664A	48007486

### [2. Conditions]

#### 1-1 Magnetic field

Set the vertical/horizontal magnetic field according to the specification of the destination, and install the CRT tube so that its screen surface is oriented to the east.

#### 1-2 Adjusting signal

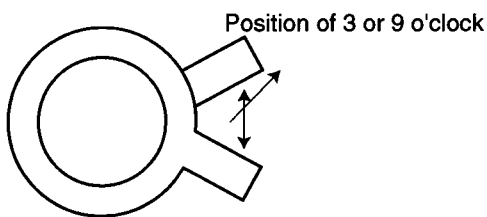
- XM-2990
  - Adjustment of convergence
    - <Horizontal frequency : 93.72KHz/ Vertical frequency : 74.98Hz
    - <Horizontal frequency : 31.47KHz/ Vertical frequency : 59.94Hz
  - Adjustment of parity
    - <Horizontal frequency : 31.47KHz/ Vertical frequency : 59.94Hz
- XP-2960
  - Adjustment of convergence
    - <Horizontal frequency : 63.98KHz/ Vertical frequency : 60.02Hz
    - <Horizontal frequency : 31.47KHz/ Vertical frequency : 59.94Hz
  - Adjustment of parity
    - <Horizontal frequency : 31.47KHz/ Vertical frequency : 59.94Hz

#### 1-3 Aging

Using an all-white signal, aging is carried out for more than 15 minutes.

### [3. Adjustment of parity]

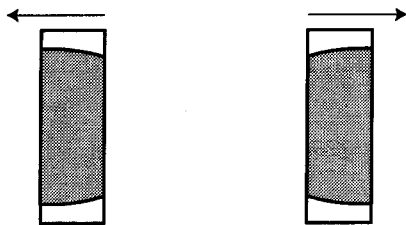
#### 3-1 Method of adjustment (Adjusted with all-white of VGA (60Hz))



(Fig. 3-1 Purity Magnet)

Adjustment of right and left balancing by motion of the protrusion from a position of 3 or 9 o'clock

- 1) Join the two protrusions of the purity magnet (CRT funnel side), which are mounted on the DY neck part. Adjust the balance of the right and left landing shapes, by moving the protrusion from a position of 3 or 9 o'clock.
- 2) Examining the right and left landing shapes of 90.0mm from the tube surface and by the use of a magnifying glass, move the DY forward and backward to determine the DY position so that an outward B (Fig. 3-2) is secured. Set the rotation of the OSM menu at "128" of the center, and fix the DY rotation to the mechanical center of the CRT.

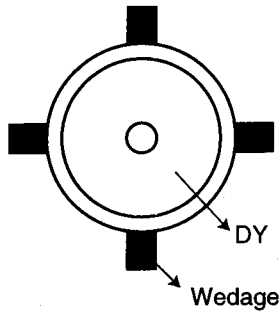


(Fig. 3-2 Landing Shape)

Adjustment of green landing to outward B, 90mm from the tube surface end

**[4. Adjustment of distortion]**

4-1 Method of adjustment (Adjusted with all-white of VGA (60Hz))



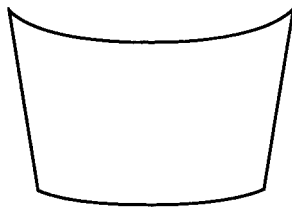
(Fig. 4-1 Wedge Fitting Position)

- 1) Set the swinging at "0" and fix the DY by inserting wedges in 4 positions; top, bottom, right, and left. (Fig. 4-1)

If distortion imbalance is too much, resulting in deviation from the set specification, then compensate for the distortion in the procedures below.

- 2) Insert wedges in upper and lower parts of the DY so that vertical distortion attains an optimal condition. (Fig. 4-2)
- 3) Insert wedges in right and left parts of the DY so that horizontal trapezoidal distortion attains an optimal condition. (Fig. 4-3)
- 4) According to the degree of DY swinging in procedures 2) and 3), there is the possibility of problem arising in purity and convergence.

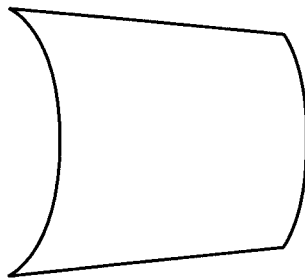
Therefore, after fixing the wedges, make 7-purity check and compensate for any color failure by the use of a purity magnet.



(Fig. 4-2 Relationship between Vertical Swinging and Distortion)

When the DY neck is made to swing upward, there will be pin distortion at the top, barrel distortion at the bottom, and vertical trapezoidal distortion with its upper part stretched, as illustrated in Fig. 4-2.

Similarly, when the DY neck is made to swing downward, there will be barrel distortion at the top, pin distortion at the bottom, and vertical trapezoidal distortion with its lower part stretched.



(Fig. 4-3 Relationship between Horizontal Swinging and Distortion)

When the DY neck is made to swing to the right as seen from funnel side, there will be pin distortion at the left, barrel distortion at the right, and horizontal trapezoidal distortion with its left part stretched.

Similarly, when the DY neck is made to swing to the left as seen from funnel side, there will be barrel distortion at the left, pin distortion at the right, and horizontal trapezoidal distortion with its right part stretched.

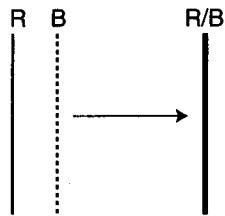
## METHOD OF ADJUSTMENTS

### [5. Adjustment of convergence]

**Note :** Adjusting signals : XP-2990/G U-XGA (75Hz) and VGA (60Hz)  
XM-2960/G S-XGA (60Hz) and VGA (60Hz)

#### 5-1 Method of static convergence adjustment

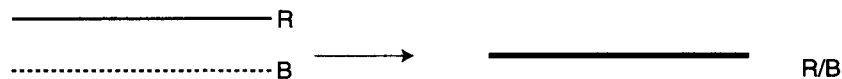
##### 5-1-1 Method of static convergence adjustment for red and blue



- 1) Adjust red/blue static convergence of vertical lines, by moving the protrusion of the 4-pole magnet (second one from CRT funnel side), mounted on the DY neck part.
- 2) Adjust red/blue static convergence of horizontal lines, by moving the two protrusions of the 4-pole magnet.

Adjustment of red/blue convergence of vertical lines, by moving the two protrusions of the 4-pole magnet.

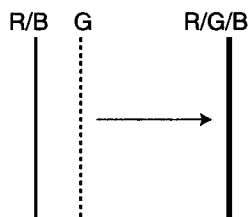
(Fig. 5-1-1 Adjustment of Red/Blue Convergence of Vertical Lines)



Adjust red/blue convergence of horizontal lines, by moving the two protrusions of the 4-pole magnet.

(Fig. 5-1-2 Adjustment of Red/Blue Convergence of Horizontal Lines)

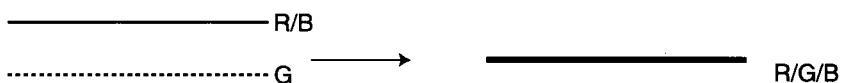
##### 5-1-2 Method of static convergence adjustment for red, blue, and green



- 1) Adjust red/blue and green static convergence of vertical lines, by moving the protrusion of the 6-pole magnet (CRT base side), mounted on the DY neck part.
- 2) Adjust red/blue and green static convergence of horizontal lines, by moving the two protrusions of the 6-pole magnet.

Adjustment of red/blue and green convergence of vertical lines, by moving the two protrusions of the 6-pole magnet.

(Fig. 5-1-3 Adjustment of Red/Blue and Green Convergence of Vertical Lines)

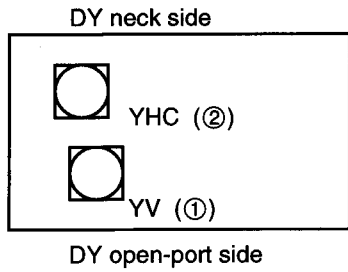


Adjust red/blue and green convergence of horizontal lines, by moving the two protrusions of the 6-pole magnet.

(Fig. 5-1-4 Adjustment of Red/Blue and Green Convergence of Horizontal Lines)

5-2 Method of Dynamic Convergence adjustment

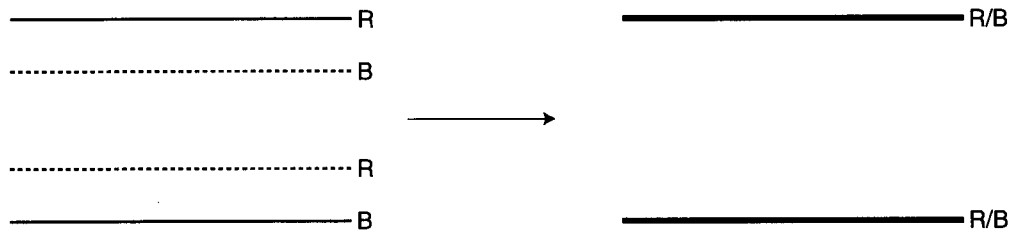
5-2-1 Method of YV (upper/lower horizontal-line red, blue) adjustment



- 1) Adjust red/blue wide/narrow mis-convergence of upper/lower horizontal lines, by the use of the YV compensation VR (1) (See Fig. 5-2-1), mounted on the terminal board of the DY upper part.

(Fig. 5-2-1 Outline Diagram of DY Top Terminal Board)

<Example>



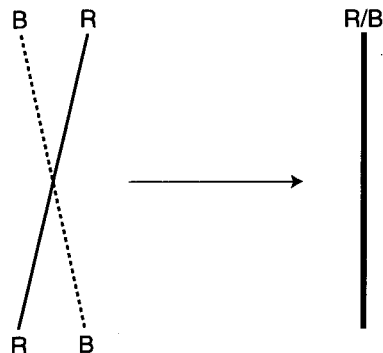
Adjust red/blue wide/narrow mis-convergence of upper/lower horizontal lines, by the use of the YV compensation VR mounted on the terminal board of the DY upper part.

(Fig. 5-2-2 Adjustment of Red/Blue Convergence of Upper/Lower Horizontal Lines)

5-2-2 Method of YH (cross of vertical-line red, blue) adjustment

- 1) Adjust red/blue cross mis-convergence of vertical lines, by the use of the YHC compensation VR (2) (See Fig. 5-2-1), mounted on the terminal board of the DY upper part.

<Example>



Adjust red/blue cross mis-convergence of vertical lines, by the use of the YHC compensation VR mounted on the terminal board of the DY upper part.

(Fig. 5-2-3 Adjustment of Red/Blue Cross Convergence)

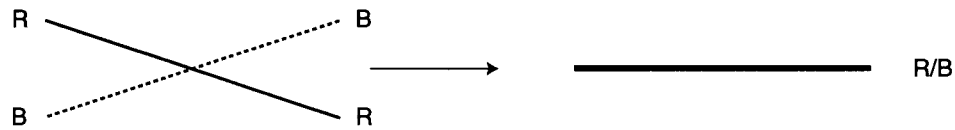
## METHOD OF ADJUSTMENTS

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### 5-2-3 Method of XV (cross of horizontal-line red, blue) adjustment

- 1) Adjust red/blue cross mis-convergence of horizontal lines, by the use of the XV compensation differential coil (below DY terminal board), mounted beneath the terminal board of the DY upper part.

<Example>



(Fig. 5-2-4 Adjustment of Red/Blue Cross Convergence)

Adjust red/blue cross mis-convergence of horizontal lines, by the use of the XV compensation differential coil mounted beneath the terminal board of the DY upper part.

### 5-2-4 Method of red, blue convergence adjustment at the peripheral part

- 1) Adjust mis-convergence at the peripheral part, by inserting a ferrite sheet between the DY and the CRT funnel block.
- 2) Because of relation to the DY magnetic flux, the amount of movement is small even though adjustment is attempted by inserting a ferrite sheet in the vicinity of 20° to 30° from the horizontal position. It can be said, however, that there is some effect (for mis-convergence of about 0.2mm) at the right and left ends.
- 3) For structural reasons of DY flux and CRT electron gun, adjustment of red is difficult to achieve in the left area of the tube surface. Similarly, adjustment of blue is difficult to achieve in the right area.

**Note:** Since there is some dispersion in convergence according to frequencies, it is necessary to confirm after adjustment, without fail, whether there is any difference in convergence between the highest and lowest frequencies of the model.

#### ○ Adjustment and inspection signal

##### • XP-2990/G

##### • Adjustment of convergence

<Horizontal frequency : 93.72KHz/ Vertical frequency : 74.98Hz>

<Horizontal frequency : 31.47KHz/ Vertical frequency : 59.94Hz>

##### • XM-2960/G

##### • Adjustment of convergence

<Horizontal frequency : 63.98KHz/ Vertical frequency : 60.02Hz>

<Horizontal frequency : 31.47kHz/ Vertical frequency : 59.94Hz>

# CIRCUIT DESCRIPTION

## Circuit Operation of HV Board (PWC-4130)

### 1. HV circuit

The FBT (T-5002) is driven by turning on and off the switching FET (Q5007, Q5025) based on the output from Pin 1 of the HV control module (IC2001).

Q5010, Q5015, Q5044, Q5045, and their peripheral are used to compose a high-voltage protector circuit. In case of abnormality, this circuit detects a voltage at both ends of ZD5016. By making Q5045 turned on, the X-PROT terminal (Pin 10) of IC2001 is turned "H" to suspend high-voltage oscillation.

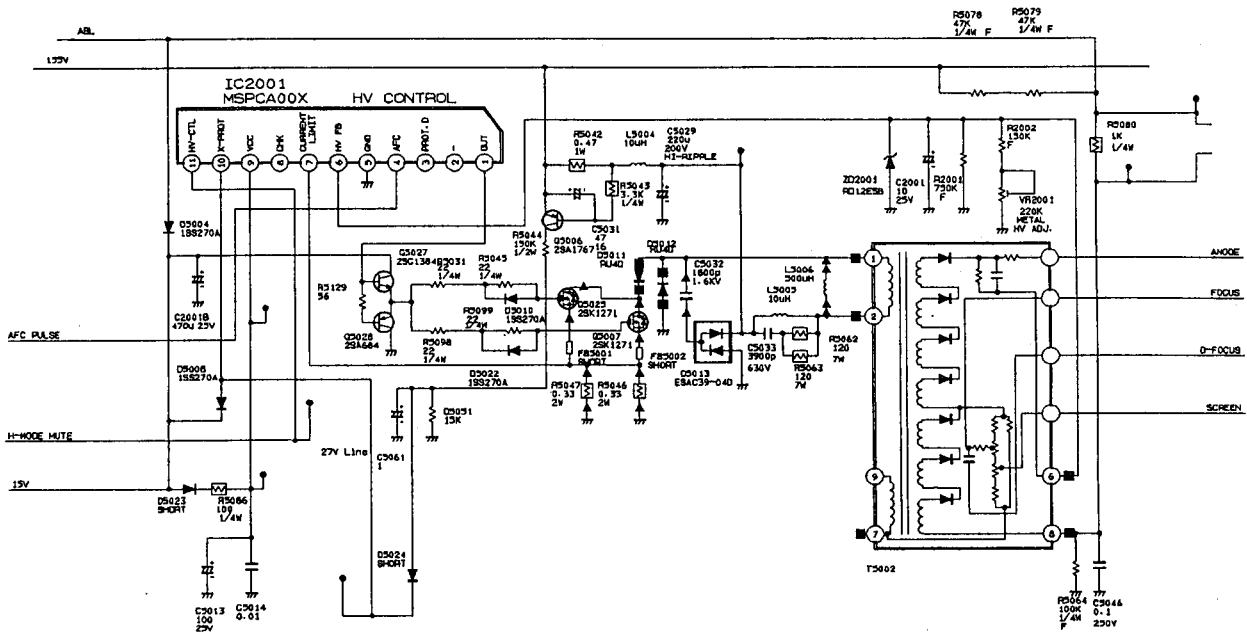


Fig. 1-a HV circuit

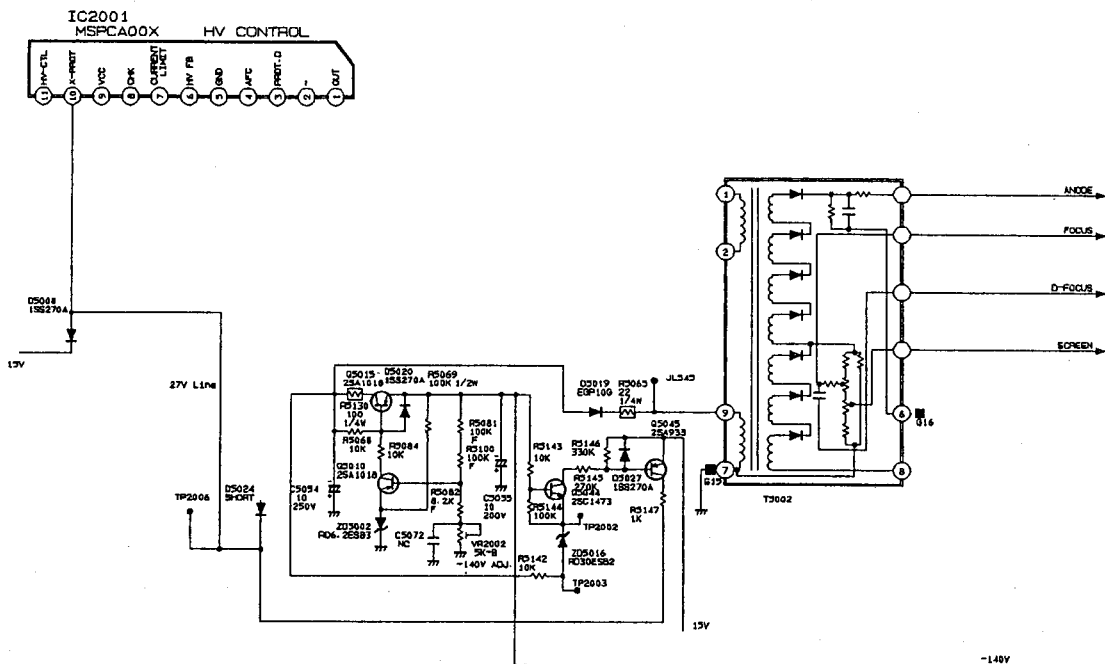


Fig. 1-b HV PROTECTOR circuit

# CIRCUIT DESCRIPTION

## 2. Chopper circuit

This is a step-down type regulator that performs ON/OFF control of Q5001 according to the PWM output of IC1030 (mPC1885C) in the CPU/OSC board. By this circuit, output voltage is regulated according to the horizontal sync frequency and ON/OFF ratio of the PWM waveform.

The output is used as a power supply of the horizontal deflection circuit (DEF PWB/PWC-4131A).

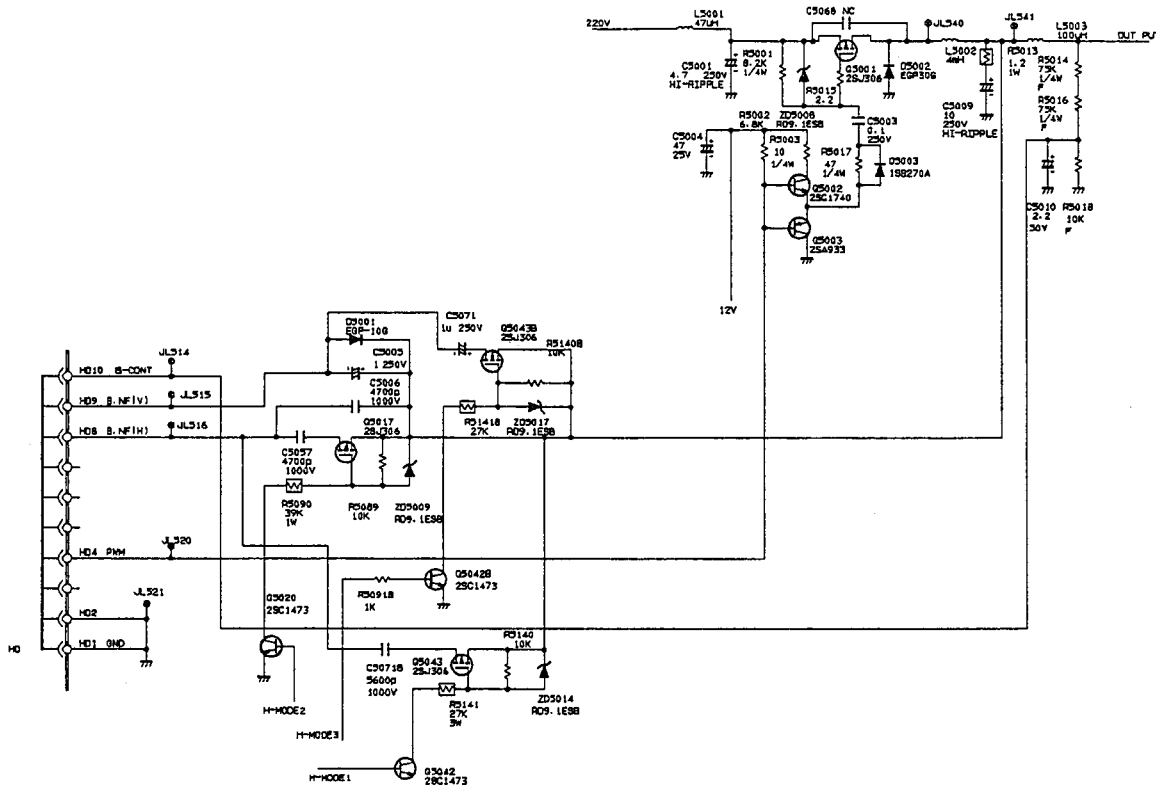
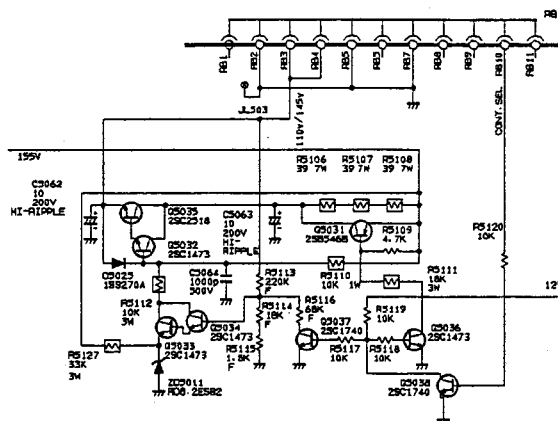


Fig. 2 Chopper circuit

## 3. 110V/145V changeover circuit

This is a changeover circuit consisting of Q5031 ~ Q5038, used to convert a source voltage of 155V into 145V for MODE1 (high-contrast display mode) and 110V for MODE2 (wide-band display mode).





4. Raster system DAC

IC5005 is a D/A converter for the raster system and audio. It controls H-center, H-width, H-dynamic focus, V-dynamic focus, rotation, and volume.

IC5005 Output Table

A01	H FOCUS D/A	A05	H-F/V
A02	V FOCUS D/A	A06	Not used
A03	H-CENTWE	A07	H SIZE
A04	ROTATION	A08	VOLUME

5. Dynamic focus circuit

IC5006 is used to produce a waveform for dynamic focusing based on the H-AFC pulses (Pin 17), V-SAW waveform (Pin 2), and control voltages (Pins 5, 6, 19). This waveform is processed for voltage conversion at T5003 through the AMP circuit (horizontal: Q5009, 5011, 5012, 5013, 5029, 5030/ vertical: Q5039, Q5014) and the resultant signal is fed to D-FOCUS of the FBT.

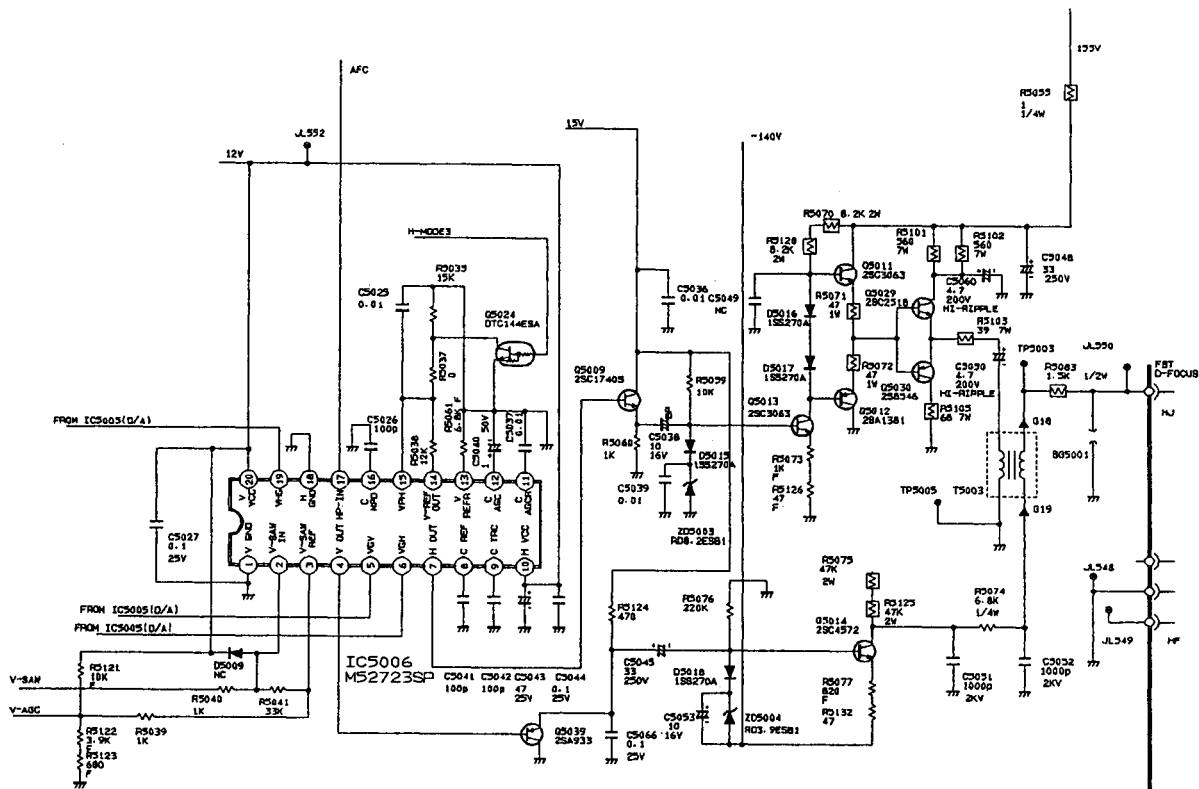


Fig. 4 D-FOCUS circuit

## CIRCUIT DESCRIPTION

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### Circuit Operation of CPU/OSC Board (PWC-4129)

#### 1. Main CPU circuit

This circuit is composed of the CPU (IC1004), extension I/O (IC1107), RESET (IC1008), EEPROM (IC1006), and bus-control IC (IC1003, IC1005). It controls overall operation of the set.

Each I/O operation except for that of buses for IC1004 and IC1007 is shown in Tables 1 and 2.

#### 2. SUB-CPU circuit

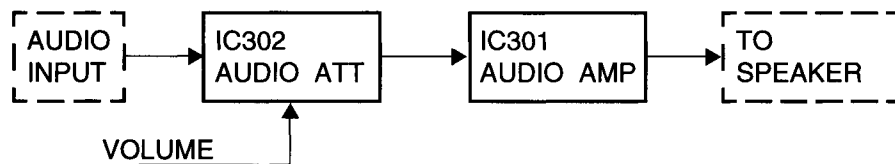
This circuit is composed of the bus control, main CPU interface (IC1014, IC1015), and SUB-CPU (IC1010) plus RS232C control (IC1011, IC1012, IC1013), intended to control PC control operation.

#### 3. Audio circuit

The audio output is amplified by AUDIO AMP (IC1301).

The output level is regulated by controlling the attenuation of AUDIO ATT (IC1302) at the previous stage, based on the volume signal voltage.

VR1310 is a variable resistor for L/R balance adjustment.



#### 4. Sync processing circuit

This circuit is composed of the sync processing circuit (IC1030) and the feedback circuit (IC1032). It employs  $\mu$ PC1885C as a sync processing IC.

Functions of the  $\mu$ PC1885C are as follows:

- Communication with the main CPU through the I2C bus
- Sync frequency measurement
- Sync type and polarity discrimination
- Vertical saw-teeth wave (V-SAW) output
- Horizontal drive output  $\rightarrow$  Horizontal deflection drive signal
- PWM output  $\rightarrow$  Controlling the drive conditions by controlling the chopper circuit (Q5001) on the HV board and changing the source for horizontal deflection
- Deflection compensation  $\rightarrow$  Compensation for horizontal position, horizontal size, side pin (corner, balance), trapezoid, parallelogram, vertical size, vertical position, vertical S/C character IC1032 accommodates various feedback circuits for horizontal deflection to IC1030.

#### 5. Vertical deflection

The saw-teeth waveform from IC1030 is DC-level-converted to the 0V center by IC1401, and amplified at IC1402. The resultant signal is taken out as a vertical deflection output.

IC1402 incorporates a pump-up circuit (switching circuit) functioning during vertical tracing period. The power source to be applied is a voltage regulated to about 100V by Q1407 during the retrace period.

#### 6. Rotation circuit (ROTATION COIL DRIVE)

The current flowing in the rotation coil is controlled by the voltage of rotation signal applied to IC1033. This current is used to control the gradient (rotation).

#### 7. Miscellaneous circuits

##### ① Front SW ON detection

For the voltage change (0V for switch ON/ 7.5V for switch OFF) at Pin 5 of the connector CP, a delay feature is provided by C1097 in order to identify whether power ON has been made by a switch or by AC closure.

##### ② Source circuit

Except for 155V and 200V, all source voltages from the DC-PS pass through the CPU/OSC board, and are extended to each board.

##### ③ Clamp pulse width control

Using IC1031, the width of clamp pulses is adjusted to a required width during the period of vertical retrace, to be used with video process and OSM display timing.

Table 1. IC1004 I/O

PIN	~	PIN	I/O	Active	Operational descriptions
1	~	4	I	L	External control
5	~	8	I/O	L	I <sup>2</sup> C bus control
9	~	10	O		Serial I/F control
		11	O	L	Peripheral circuit reset
		12	I/O	H	μPC1885C free-run adjustment start check
13	~	16	I	H	Key scan
		35	I	H	Front power switch detection
		36	I	H	Rise-of-source detection
		37	I	H	Fan stop detection
		38			Not used
		43	I	L	Reset input
		44	I	H	PC control interrupt
		46	(I)	(H)	μPC1885C wink (not used)
		47	I	L	Remote control data input
		53	I	H	V-CUT switch (S1401) detection
55	~	56	O	—	H/L output according to horizontal sync frequency
		57	O	H	Degauss control
		58	O	H	Power source control
59	~	61	O	H	Key scan pulse output

Table 2. IC1007 I/O

PIN	I/O	Active	Operational descriptions
2	O	—	H/L output according to horizontal sync frequency
3	O	—	HI-CONTRAST (L)/WIDE BAND (H) changeover
11	O	H	Horizontal protection output
13	O	L	OSM IC (IC8003) CS
14	O	H	SIOP IC (IC5503) CS
15	O		Not used
16	O	H	Raster system IC (IC5005) CS
17	O	H	Visual system IC (IC8002) CS
19	O	H	6.3V control signal for heater
20	O	H	Horizontal cut signal to OSC IC (IC1030)
21	O	L	Video mute signal
22	O	L	Audio mute signal
37	O	H	Red LED lighting signal on SW-LED board
38	O	H	Green LED lighting signal on SW-LED board
39	O		Input1 (L) /2 (H) changeover signal
40	O		Input VIDEO (L) /RGB (H) changeover signal

## CIRCUIT DESCRIPTION

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### Circuit Operation of Power Unit

#### 1. Functions and performance

- PFC (harmonic prevention) circuit
- T6101 (220V, 155V,  $\pm 22.55V$ , 27V, 22.55V, and 15V)
- T6102 (12V, 7.5V, and 6.3V)
- Overvoltage, overcurrent protective circuits

#### 2. Outline circuit operation

##### ① PFC (harmonic-related measures) circuit

This is a step-up type converter circuit composed of a choke coil (L6104), switching transistors (Q6101, Q6102), a rectifier diode (D6102), and a rectifier capacitor (C6120). This circuit is controlled so that AC input current and the voltage at both ends of rectifier capacitor are detected to control the switching transistor's duty, in order to decrease the harmonic component of the input current. The rectifier capacitor voltage amounts to DC 240V ~ 420V.

##### ② Circuits of 220V, 155V, $\pm 22.55V$ , 27V, 22.55V, and 15V

This is a DC/DC switching converter circuit composed of a control IC (IC661), switching transistors (Q6104, Q6105), a switching transformer (T6101), rectifier diodes (D6161 ~ D6167), and rectifier capacitors (C6171, C6173, C6175, C6177, C6179, C6181, C6182, C6184). For output voltage control, 155V is detected, the voltage divided by the resistors R6169, R6171, and R684 plus the volume control VR681 is applied to the reference terminal of the shunt regulator IC681, the signal compared by the comparator in this IC is transmitted to Pin ③ of the primary IC661 through the photo-coupler (PC6101), and the voltage at the reference terminal of IC681 is controlled to 2.5V by controlling the ON/OFF duty of the switching transistor by this signal.

##### ③ Standby source circuits for 12V, 7.5V, and 6.3V

This is an RCC power source composed of a switching transistor (Q6106), a switching transformer (T6102), rectifier diodes (D6168, D6170), and rectifier capacitors (C6186, C6188).

For output voltage control, 7.5V is detected by the resistor R6180, the voltage divided by the resistor R6181 is applied to the reference terminal of the shunt regulator IC6165, the signal compared by the comparator in this IC is transmitted to the base of the primary transistor Q671 through the photo-coupler (PC6103), and the voltage at the reference terminal of IC6165 is controlled to 2.5V by controlling the oscillation frequency of the switching transistor by this signal.

##### ④ Overvoltage, overcurrent protective circuits

###### ④-1 Overvoltage protection

There is an overvoltage protective circuit provided to the block of the switching transformer T6101. The output voltage on its secondary side is detected, and if any abnormality is found, all outputs on the secondary side except for the standby sources are lowered for latching to assume a condition of oscillation stop. For resetting to cancel latching, an input of L (0V) → Hi (5V) is applied to the Power ON/OFF (Connector: DC Pin ⑦).

###### ④-2 Overcurrent protection

Currents flowing in the source and the emitter of the primary switching transistor of the switching transformers (T6101, T6102) are detected. When an overcurrent is sensed, the protective circuit functions to lower the output voltage.

When an overcurrent flows in the output circuit of the T6101 transformer and a condition of output voltage reduction continues for few seconds, all secondary outputs other than the standby power source are lowered for latching, in order to assume a condition of oscillation stop.

This latching operation takes place in the same circuit as that for overvoltage protective operation. Resetting is effected by the same operation to eliminate the state of latching.

In the case of overvoltage protection of outputs for 27V, 15V, 12V, and 6.3V, the outputs are lowered to the level of the line since this protection is contained in the domain of Character V for the 4-terminal regulator.

**DEF PWB Circuit Operation**

**Description of horizontal deflection circuit operation**

**1. Horizontal drive circuit**

This circuit is intended to supply current to the base of the horizontal output transistor Q5501 through T5502, by switching the Q5505 with horizontal drive pulses at Pin ① of the "HL" connector.

The base current of Q5501 requires to be controlled by horizontal amplitude. Since this current is dependent on the emitter voltage of Q5508, voltage control is effected by utilizing the width control voltage at Pin ⑨ of the "HL" connector for the regulator circuit consisting of IC5501, Q5508, Q5509, and Q5510.

**2. Horizontal deflection output circuit**

The current flowing in the deflection yoke is maintained in the former half of scanning when D5501 is turned on, and in the latter half of scanning when Q5501 is turned on. The flyback period is dependent on the resonance current that is attributable to C5501, C5501B, C5502, C5502B, C5503, and deflection yoke. Changeover of various capacitors is based on the table below.

	RL5503	RL5504
f H=15KHz	ON	ON
f H=31~66KHz	ON	OFF
f H=66~95KHz	OFF	OFF

The horizontal amplitude is controlled based on the source (Pin ③ of the "HF" connector) of the horizontal output circuit, so that the crest value of horizontal pulses (Pin ⑦ of the "HG" connector) potential-divided by C5507, C5507B, and C5508 is kept constant for each horizontal frequency.

Q5502, Q5502B, and Q5503 are turned off during the flyback period. At that time, being fed negative horizontal pulses from Pin ③ of the T5501 winding, this circuit gains very much deflection current. This control is effected by the ON/OFF control of Q5504, using horizontal pulses from Pin ⑤ of the T5501 winding. When the frequency (fH) is 15kHz, RL5505 is turned off so that no voltage can be applied from the winding.

**3. Horizontal linearity compensation circuit**

**3-1. Dynamic linearity coil control circuit**

This is a circuit consisting of IC5502, Q5527, Q5528, Q5529, and Q5530, utilizing the H-F/V voltage at Pin ⑳ of the "HL" connector. By changing currents in the control windings of T5503, T5504, T5505, and T5506, coil's inductance is regulated according to the horizontal frequency. In addition, changeover is conducted among coils. This changeover conforms to the table below.

	RL5501	RL5502
f H=15KHz	OFF	OFF
f H=31~66KHz	ON	ON
f H=66~95KHz	ON	ON

## CIRCUIT DESCRIPTION

### 3-2. Character-S compensation changeover circuit

Capacitor changeover is effected for Character-S compensation according to the horizontal frequency. Changeover is performed with the data from the CPU, and the control voltage is output from IC5503. Changeover among Q5520 to Q5526 conforms to the table below.

MODE	Frequency range	Vertical	Q5226	Q5225	Q5224	Q5522	Q5523	Q5521	Q5520
MODE1	15.7KHz		ON	ON	ON	ON	ON	ON	ON
MODE2	31~32.5KHz		ON	ON	ON	ON	ON	OFF	OFF
MODE3	32.5~34.4KHz		ON	ON	ON	ON	ON	OFF	OFF
MODE4	34.4~36.5KHz	> 80Hz	ON	ON	ON	ON	ON	OFF	OFF
		< 80Hz	ON	ON	OFF	ON	ON	OFF	OFF
MODE5	36.5~42KHz		OFF	OFF	OFF	ON	ON	OFF	OFF
MODE6	42~45KHz		OFF	OFF	ON	OFF	ON	OFF	OFF
MODE7	45~49KHz		ON	ON	OFF	ON	OFF	OFF	OFF
MODE8	49~51KHz		ON	OFF	OFF	ON	OFF	OFF	OFF
MODE9	51~57.5KHz		OFF	OFF	OFF	ON	OFF	OFF	OFF
MODE10	57.5~62KHz		ON	ON	ON	OFF	OFF	OFF	OFF
MODE11	62~70KHz	< 80Hz	ON	OFF	ON	OFF	OFF	OFF	OFF
		> 80Hz	OFF	OFF	ON	OFF	OFF	OFF	OFF
MODE12	70~79KHz		ON	ON	OFF	OFF	OFF	OFF	OFF
MODE13	79~83KHz		OFF	ON	OFF	OFF	OFF	OFF	OFF
MODE14	83~89.5kHz		ON	OFF	OFF	OFF	OFF	OFF	OFF
MODE15	89.5~95KHz		OFF	OFF	OFF	OFF	OFF	OFF	OFF

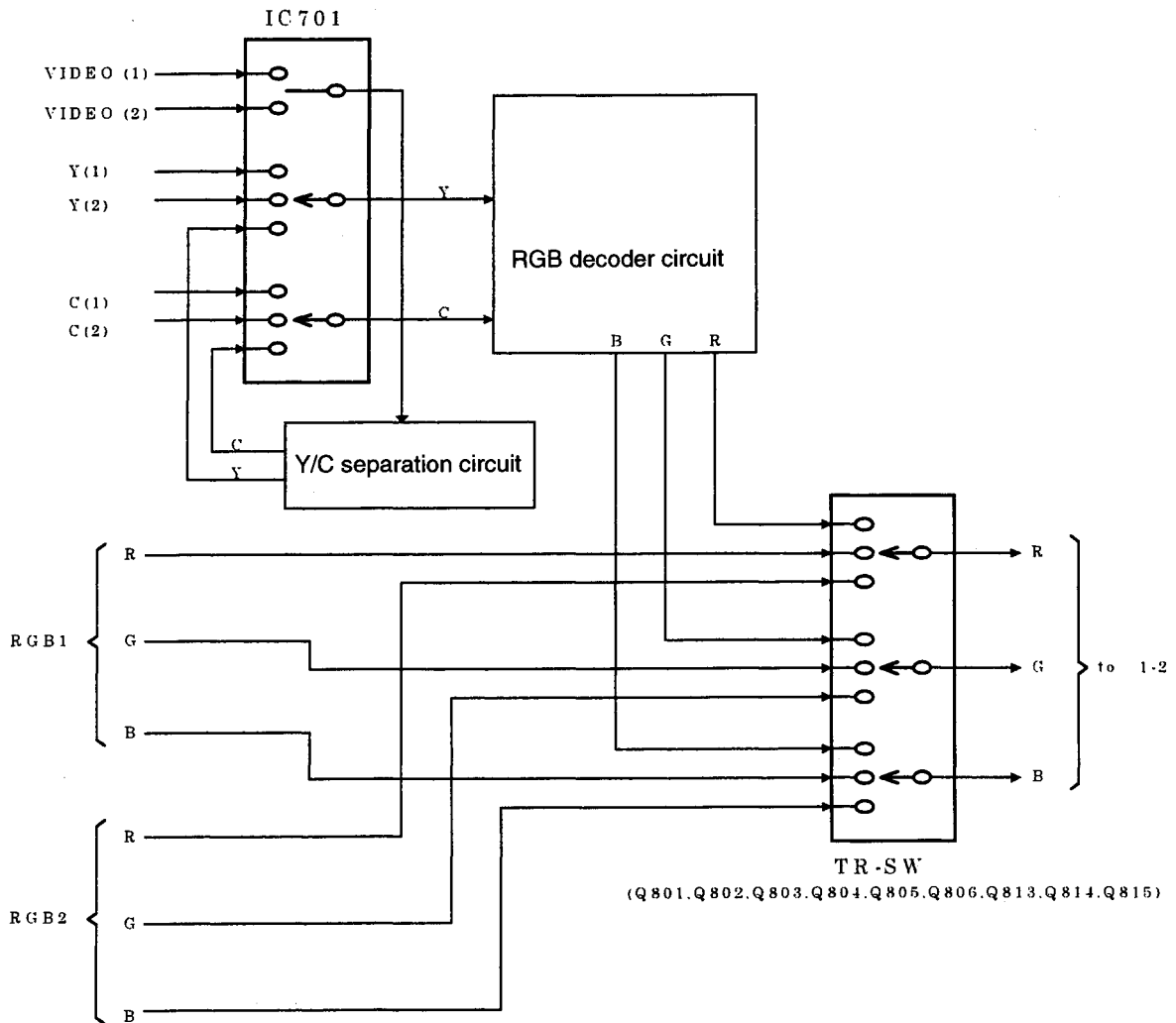
### 4. Horizontal raster position control circuit

The control voltage of H-CENTER at Pin ⑪ of the "HL" connector is amplified by IC5501 and Q5511 to control the emitter voltage of Q5512 and Q5513. In this state, DC current is led to the deflection yoke through R5604, R5534, and L5504, so that the horizontal raster position can be changed.

**Video-I/O PWB (PWC-4127A) circuit operation**

**1. Input video changeover block**

The RGB input signals of RGB1 (D-SUB) and RGB2 (BNC) are chosen with TR-SWs (Q801, Q802, Q803, Q804, Q805, Q806, Q813, Q814, and Q815,). The system of composite video signals is chosen by IC701, and similarly sent to the TR-SW. In this case, however, selection of the VIDEO input/S terminal (Y, C in the drawing) is performed by IC701 by detecting the insertion of an S-terminal connector with a mechanical switch. The decoder RGB output from the RGB decoder circuit is sent to the TR-SW. The RGB video signal selected by the TR-SW is sent to the video output circuit (RGB-out PWB).

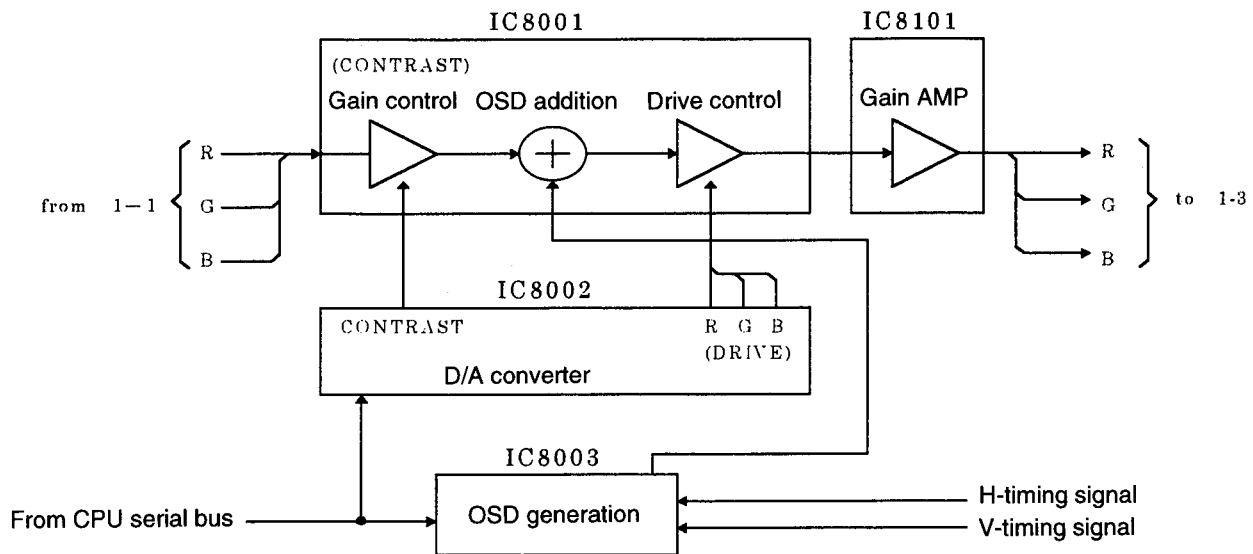


- \* During RGB1 selection, Q801, Q802, and Q803 are turned on.
- During RGB2 selection, Q804, Q805, and Q806 are turned on.
- When VIDEO is selected, Q813, Q814, and Q815 are ON, and other modes are OFF.

## CIRCUIT DESCRIPTION

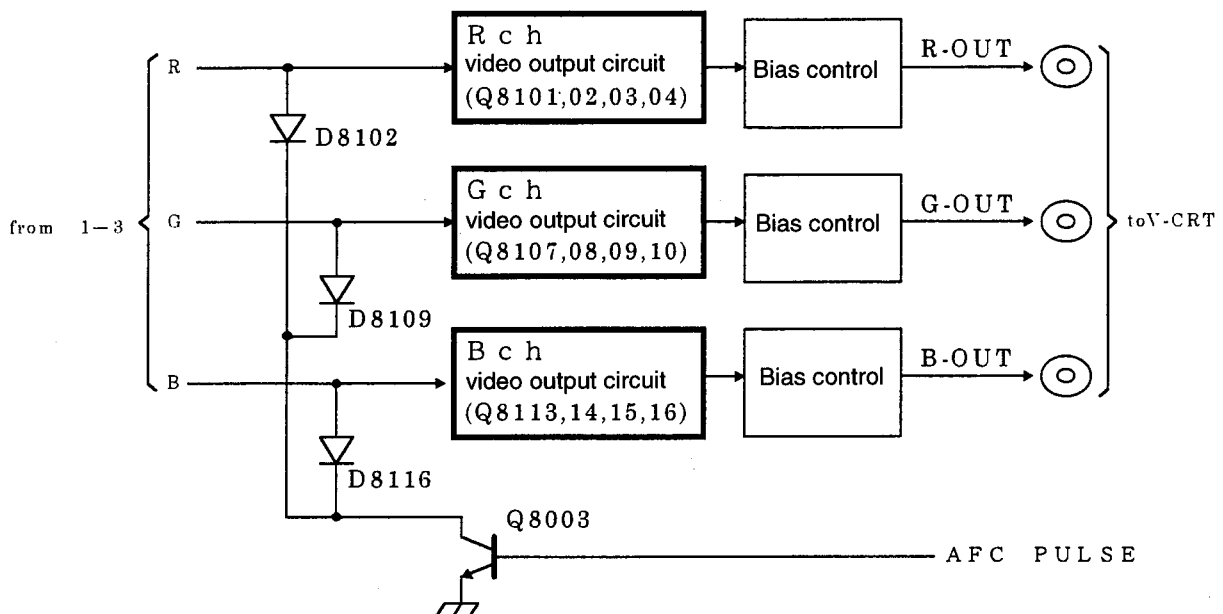
### 2. OSD addition, contrast, drive control circuit

The RGB signal output from the input signal changeover circuit is entered in IC8001. After gain (contrast) control and OSD signal addition processing, the signal is then processed by drive control. Its gain is amplified by IC8101 again and the resultant signal is sent to the video output circuit. The OSD signal is output from IC8003 by the use of a serial bus signal from the CPU, and then sent to IC8001. IC8002 is a D/A converter for serial data input, installed for the purpose of video signal control. Contrast and drive control signals are output from IC8002 by virtue of a serial bus signal from the CPU. These signals are similarly sent to IC8001.



### 3. RGB output circuit

After OSD addition and contrast/drive control, the RGB signals are added with peak clamp pulses by the pre-stage diodes and transistor (D8102, D8109, D8116, Q8003). Since then, these signals are entered in the video AMP circuit. The RGB signals, amplified to a level enough to drive the cathode, are peak-clamped (bias control) by the pulses added at the previous stage. The signals are finally sent to the VIDEO-CRT board through the output coaxial connector.





**4. Y/C separation (digital comb filter), RGB decoder circuits**

The COMB FIL block is in charge of Y/C separation for the NTSC/PAL signals. The CXD2024AQ is an NTSC/PAL-compatible adaptive field comb filter, involving an 8-bit D/A and 4-line delay line configuration, realizing high-accuracy Y/C separation with a single chip. For the signals of SECAM/4.43NTSC, Y/C separation is carried out by the band-pass filter after the signals have passed the buffer of Q7403. The separated Y signal is chosen by IC7202 according to the system discrimination signal (VIDEO MODE), and then input to IC7210. The separated C signal is similarly chosen by IC7205 and fed to IC7210. The input signal from the S terminal is fed to IC701 and selected according to the operation mode. The Y/C signal input to IC7210 is RGB-converted and then output. IC7210 is an RGB decoder, incorporating a function of I<sup>2</sup>C serial bus control. Various controls for signal decoding (COLOR, TINT, etc.) are conducted according to the serial data supplied from the CPU.

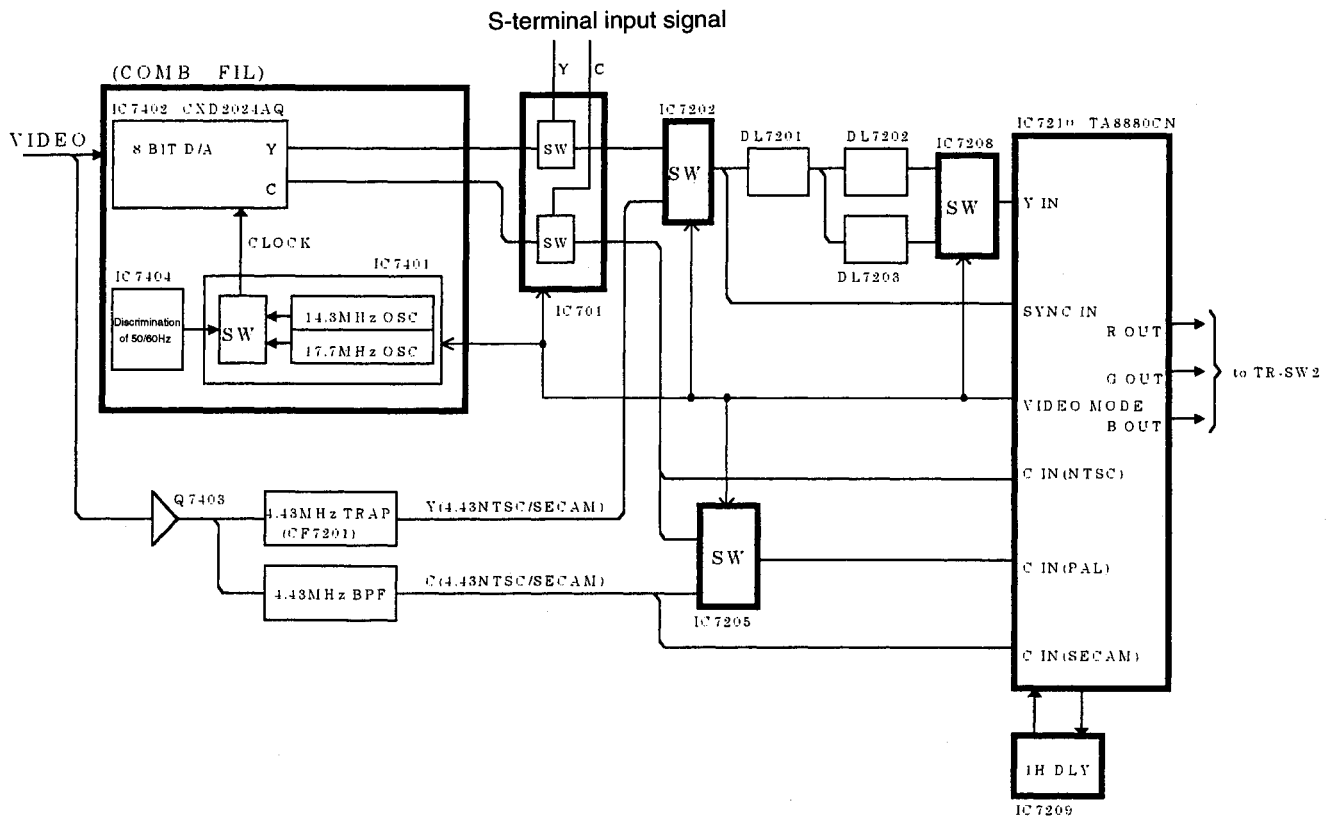
<Information for reference>

Corresponding signaling mode: NTSC/PAL/SECAM/4.43NTSC (4 modes in all)

Changeover is effected according to the signals (VIDEO MODE) in the drawing.

Oscillation clock of IC7401: 14.3MHz = 3.57 \* 4 (NTSC mode)

17.7MHz = 4.43 \* 4 (PAL mode)

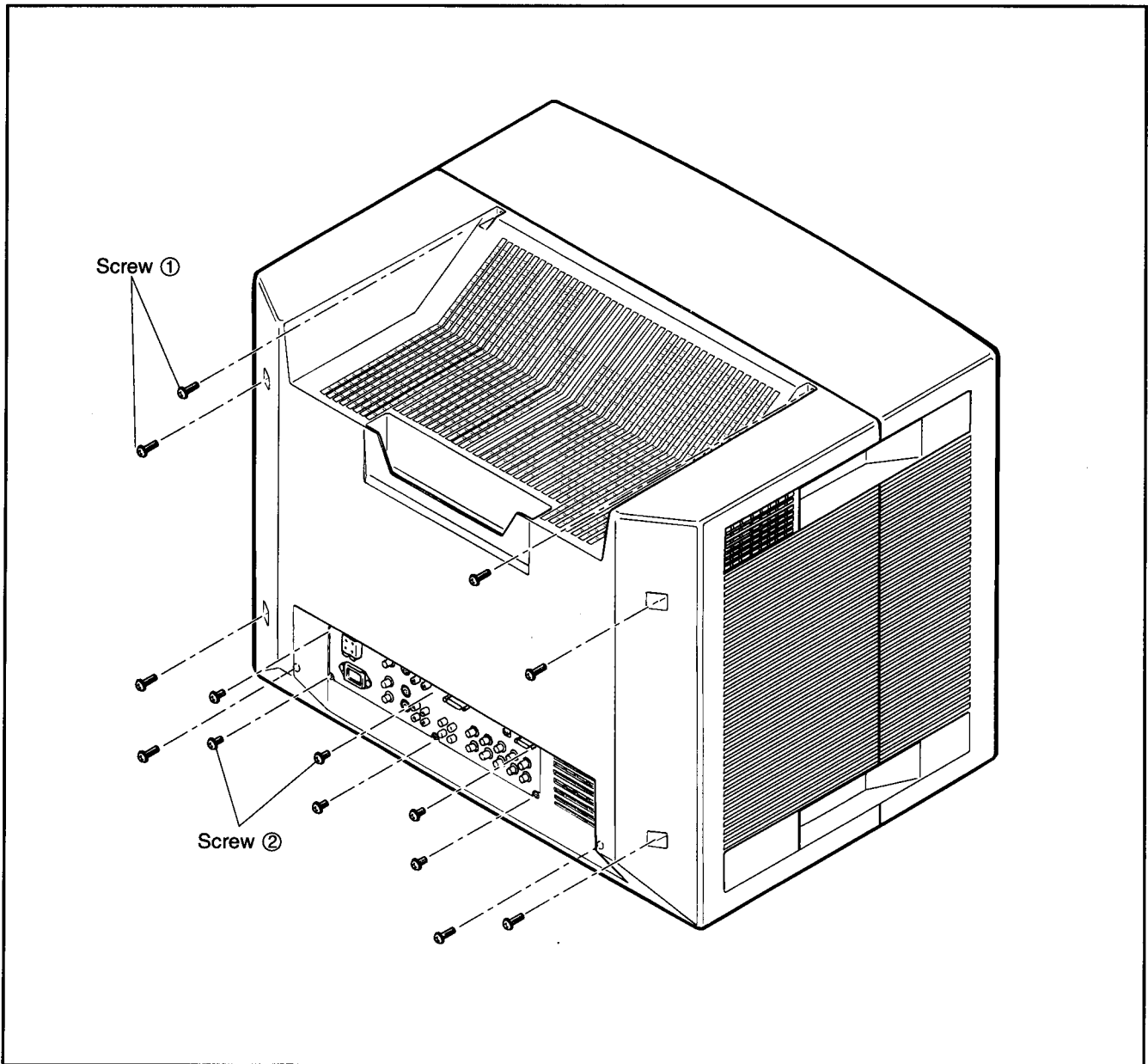


# METHOD OF DISASSEMBLY

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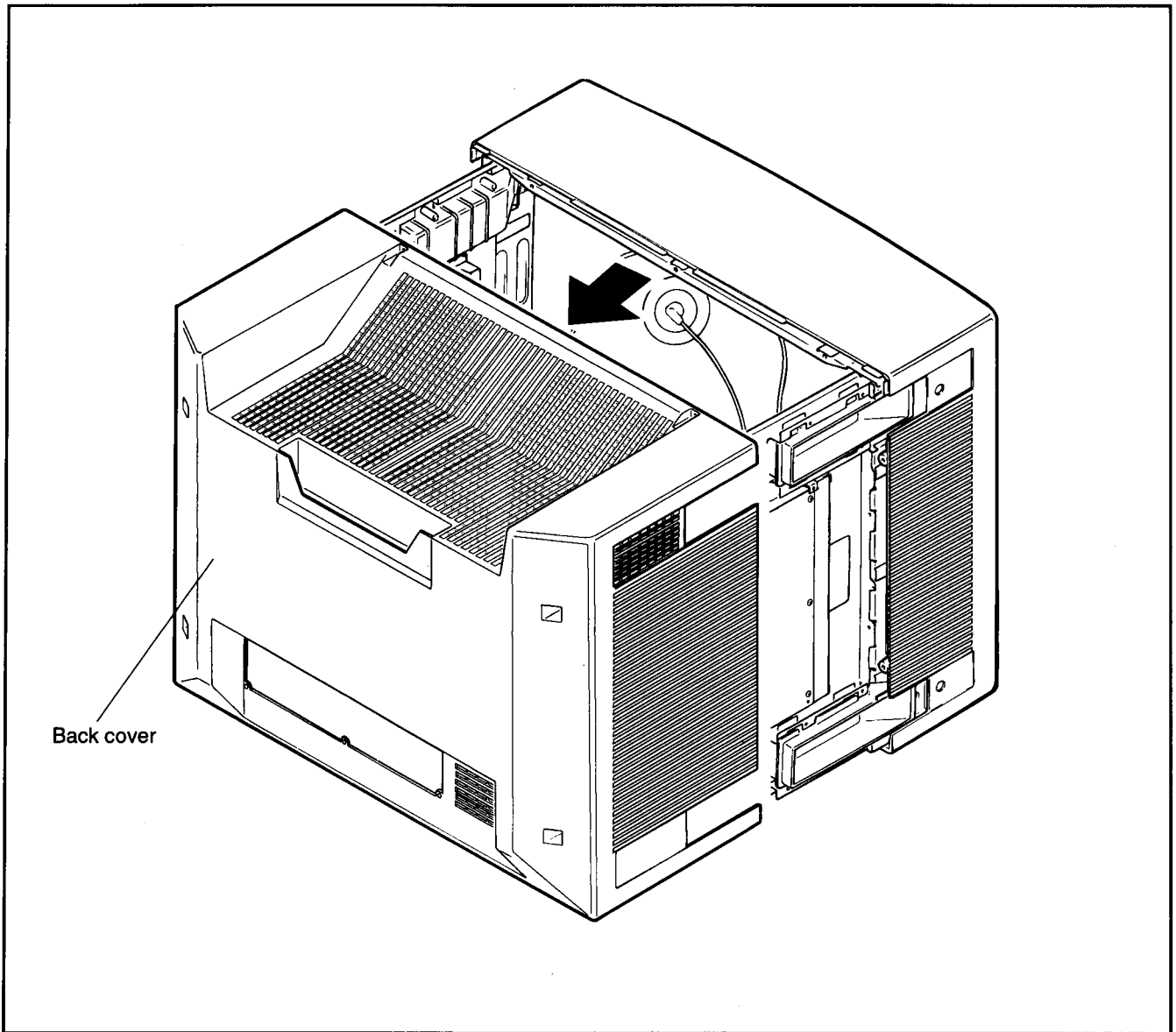
1.

(1) Remove 6 screws ① and 8 screws ②.



**2.**

(1) Pull the back cover rearward till it comes off.

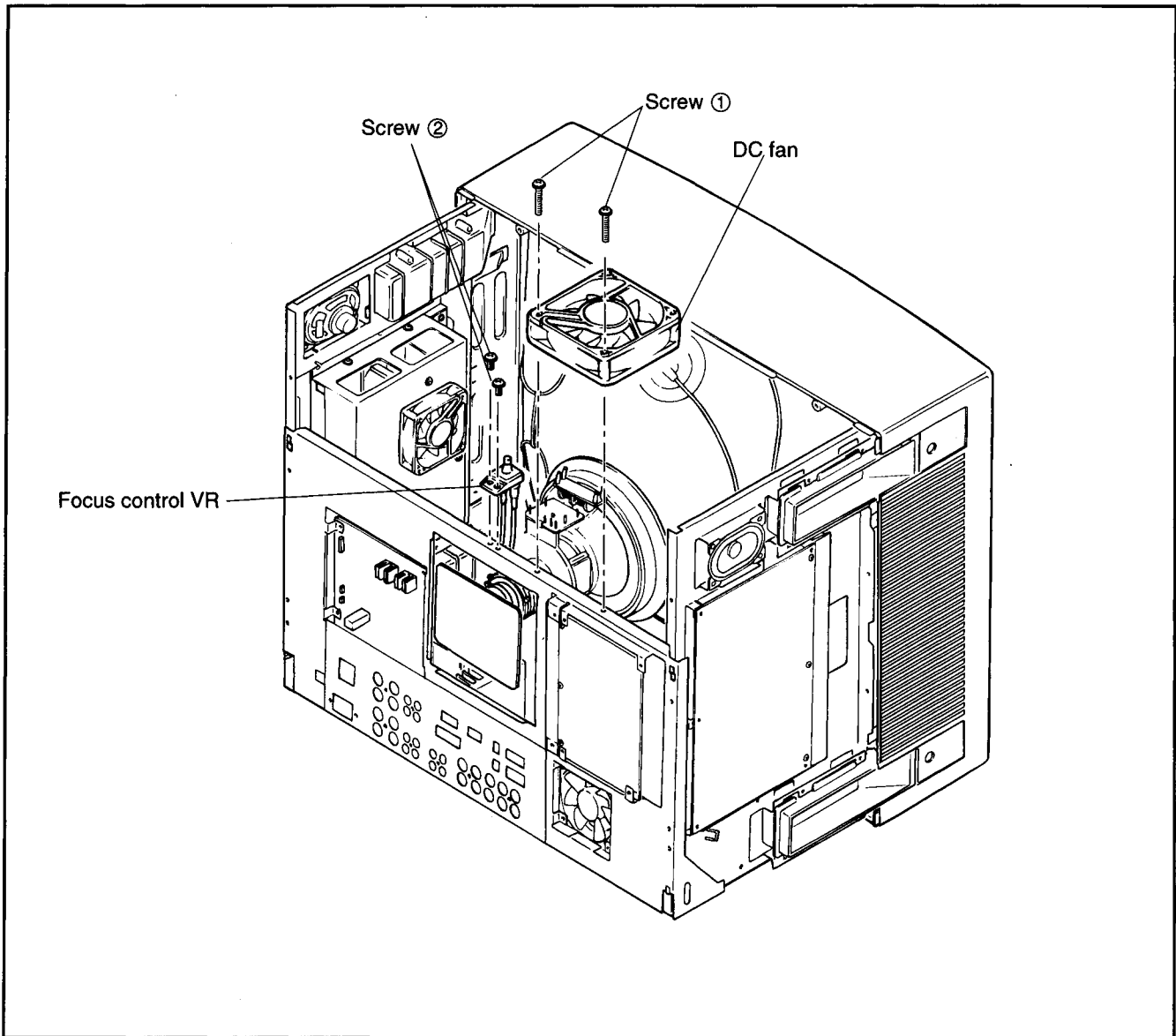


## METHOD OF DISASSEMBLY

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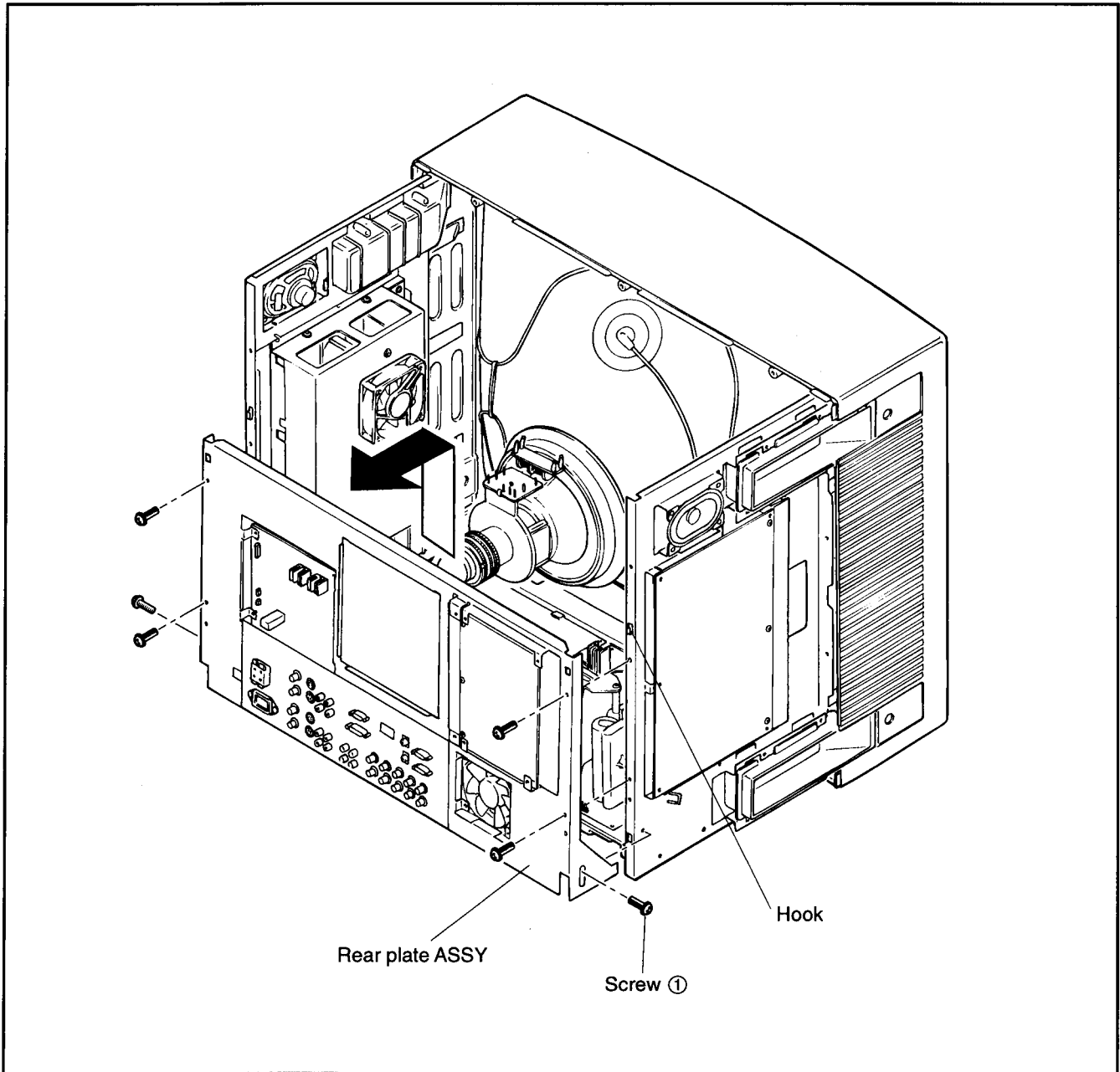
### 3.

- (1) Remove 2 screws ①, then the DC fan.
- (2) Remove 2 screws ②, then the focus control VR.



4.

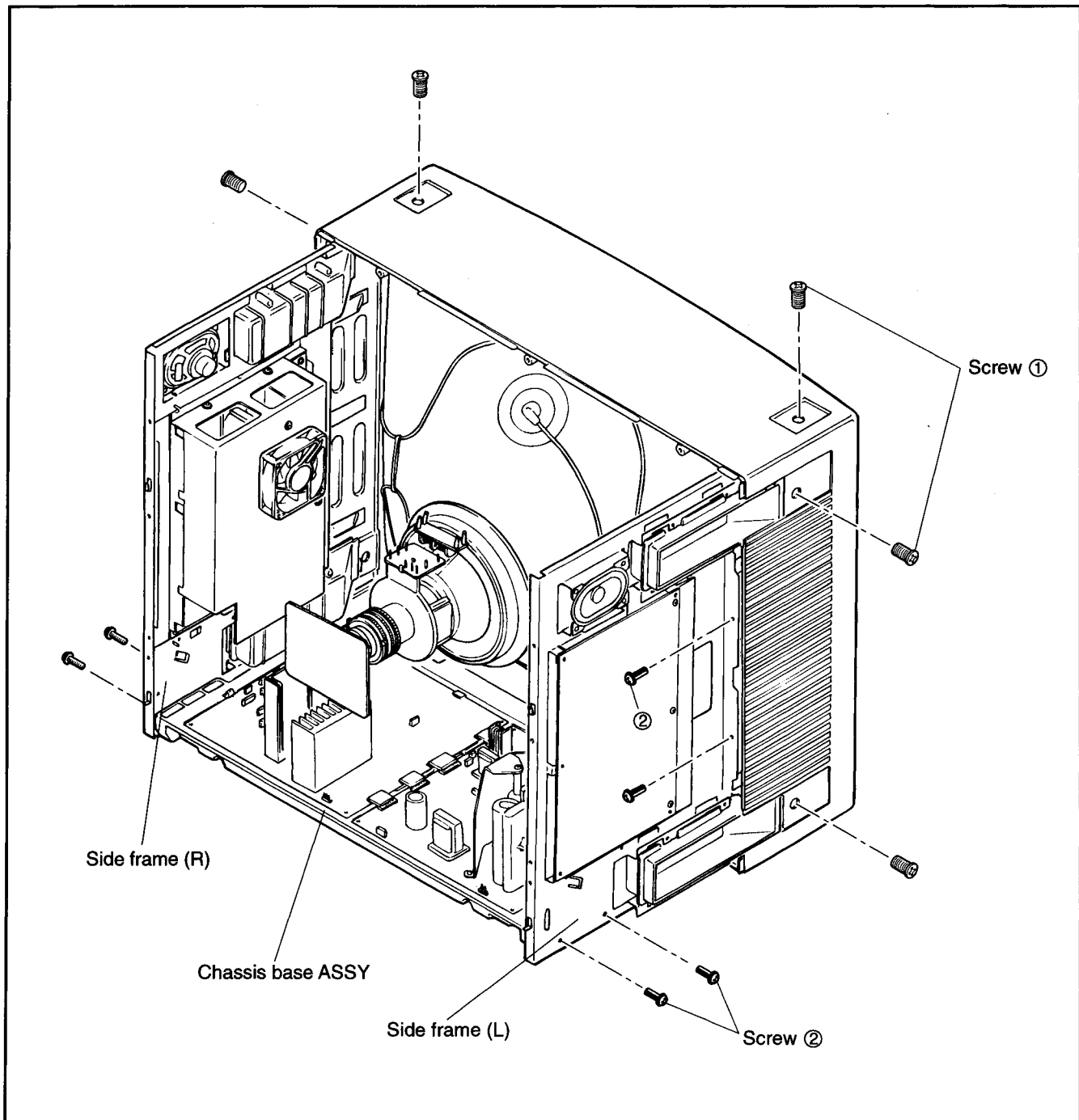
(1) Remove 6 screws ①, then the rear plate ASSY from the feet of the right and left hooks.



## METHOD OF DISASSEMBLY

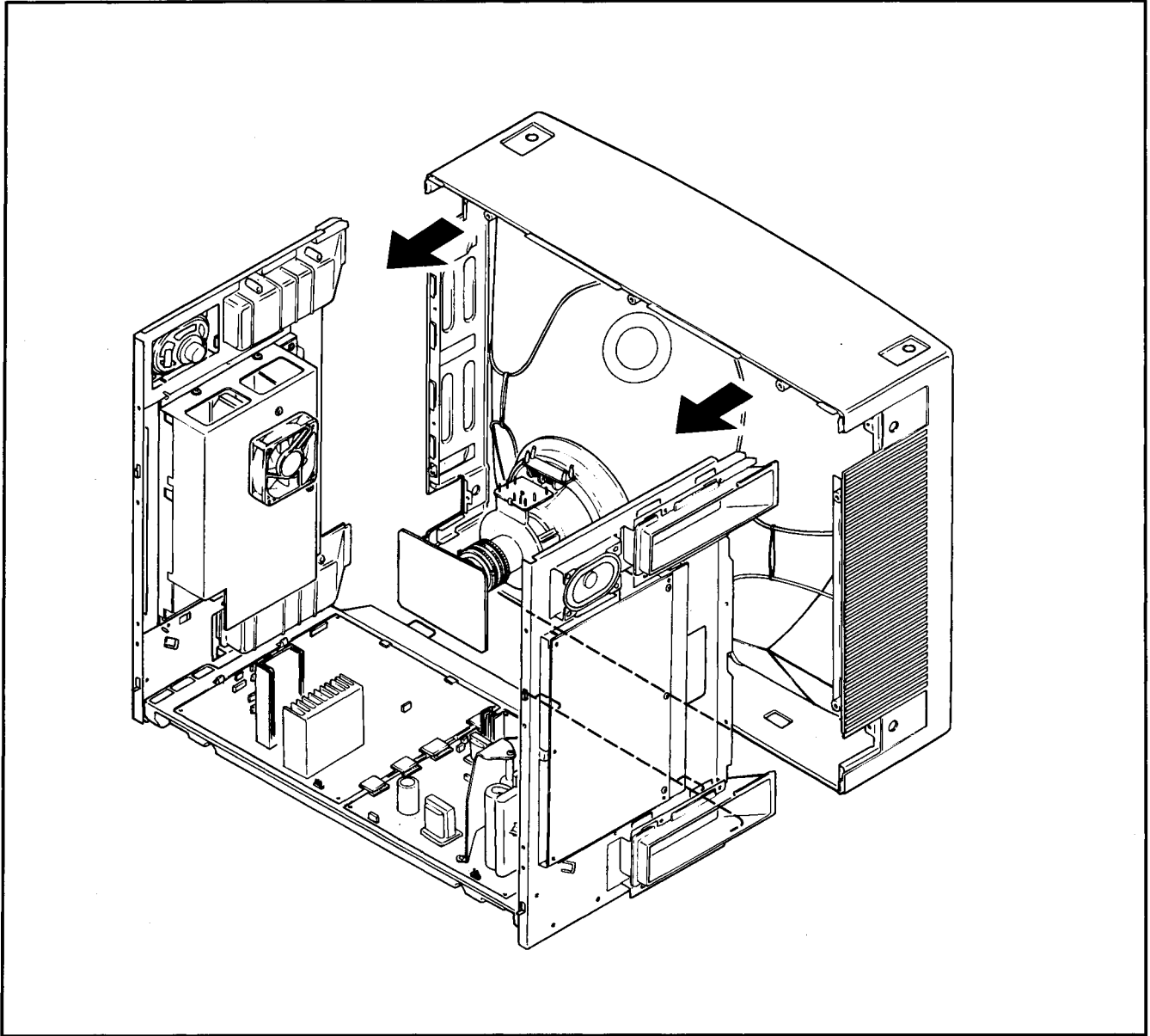
5.

(1) Remove 6 screws ① and 8 screws ②.



6.

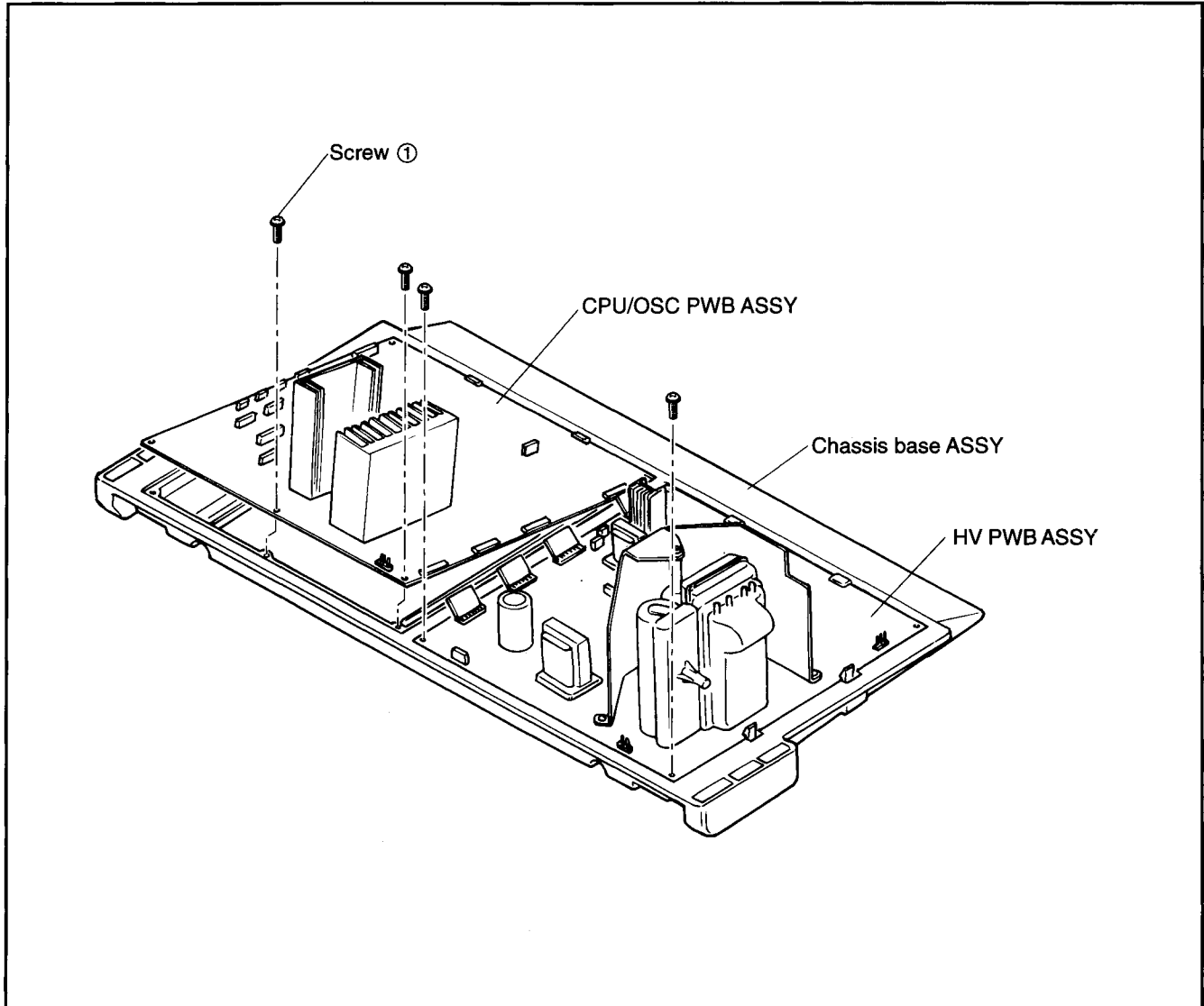
- (1) Pull out the chassis base ASSY and side frames (L), (R).  
(The chassis base ASSY and side frames (L) and (R) can be removed separately.)



## METHOD OF DISASSEMBLY

7.

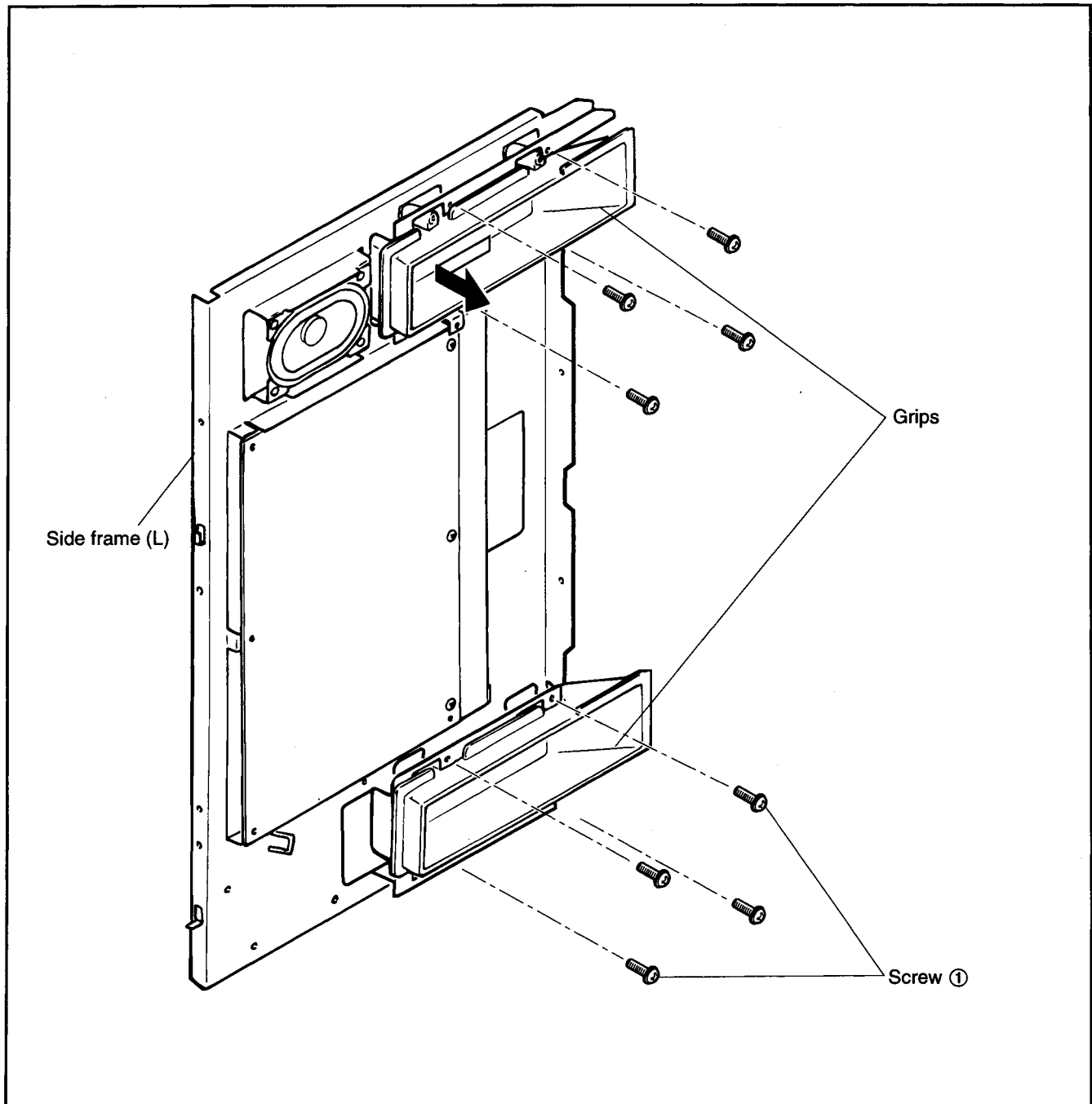
- (1) Remove 4 screws ①, and take the CPU/OSC PWB ASSY and HV PWB ASSY from the chassis base ASSY.





8.

(1) Remove 7 screws ①, and take the grips from the side frame (L).

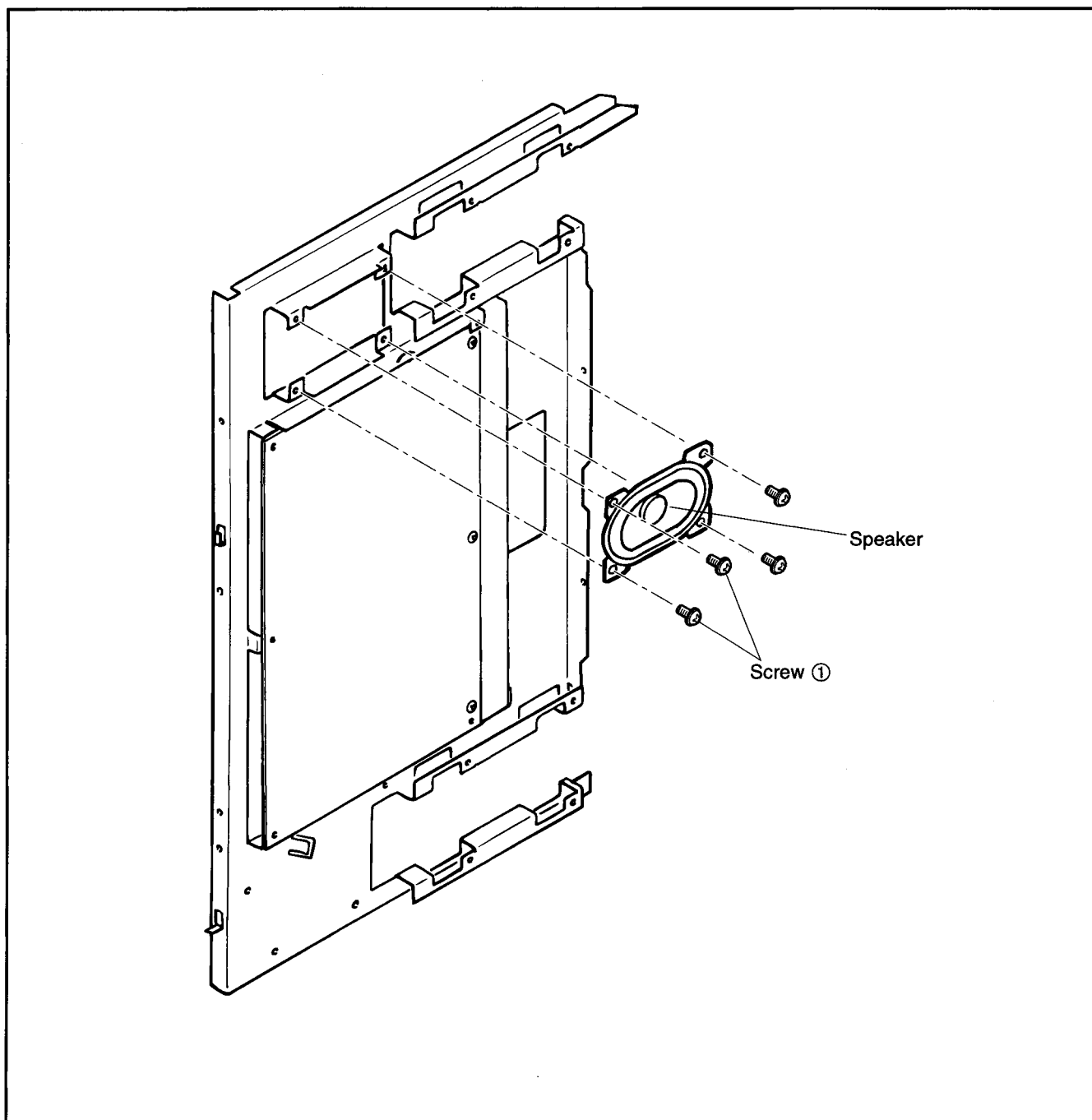


## METHOD OF DISASSEMBLY

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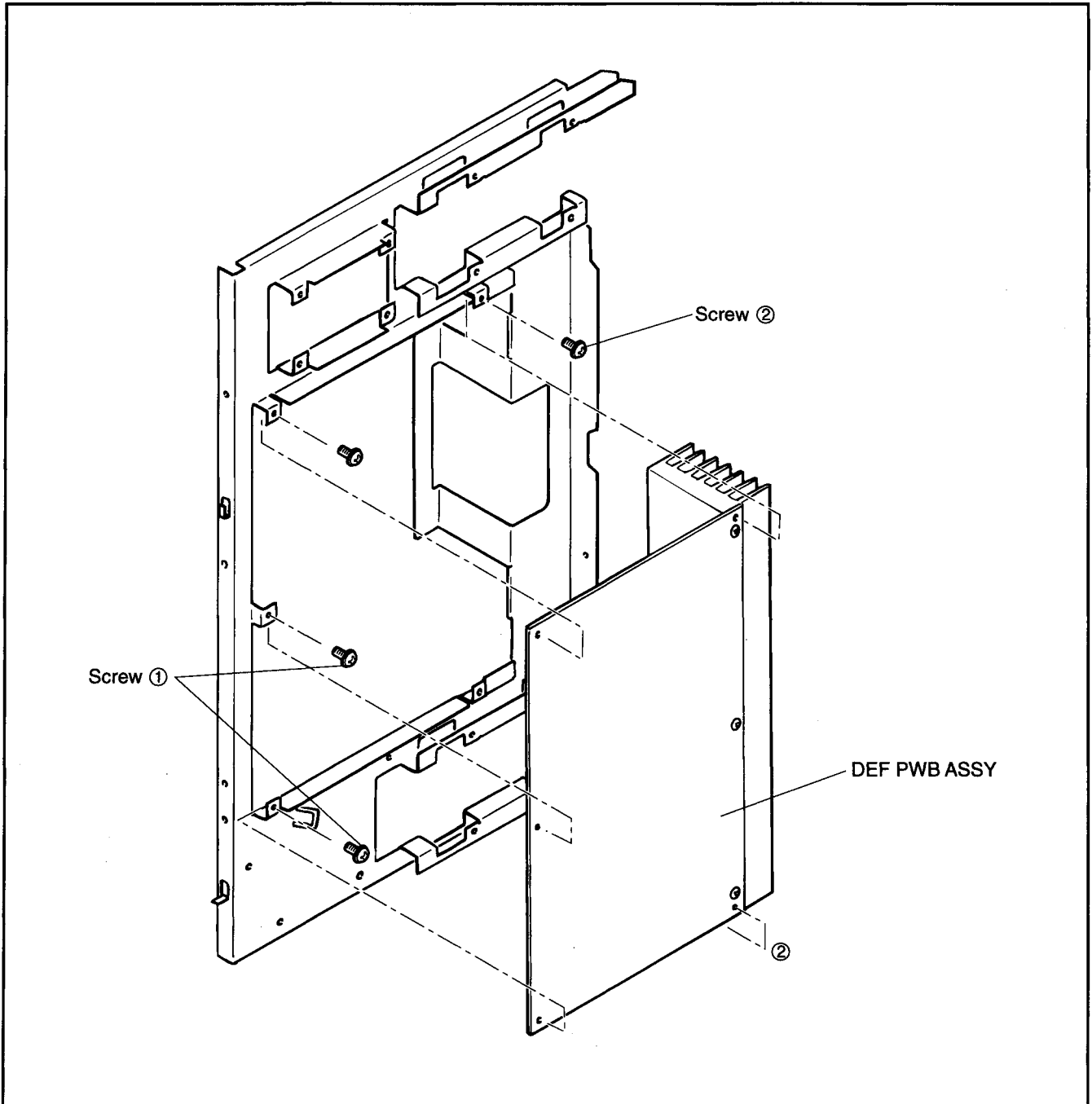
9.

(1) Remove 4 screws ①, then the speaker.



10.

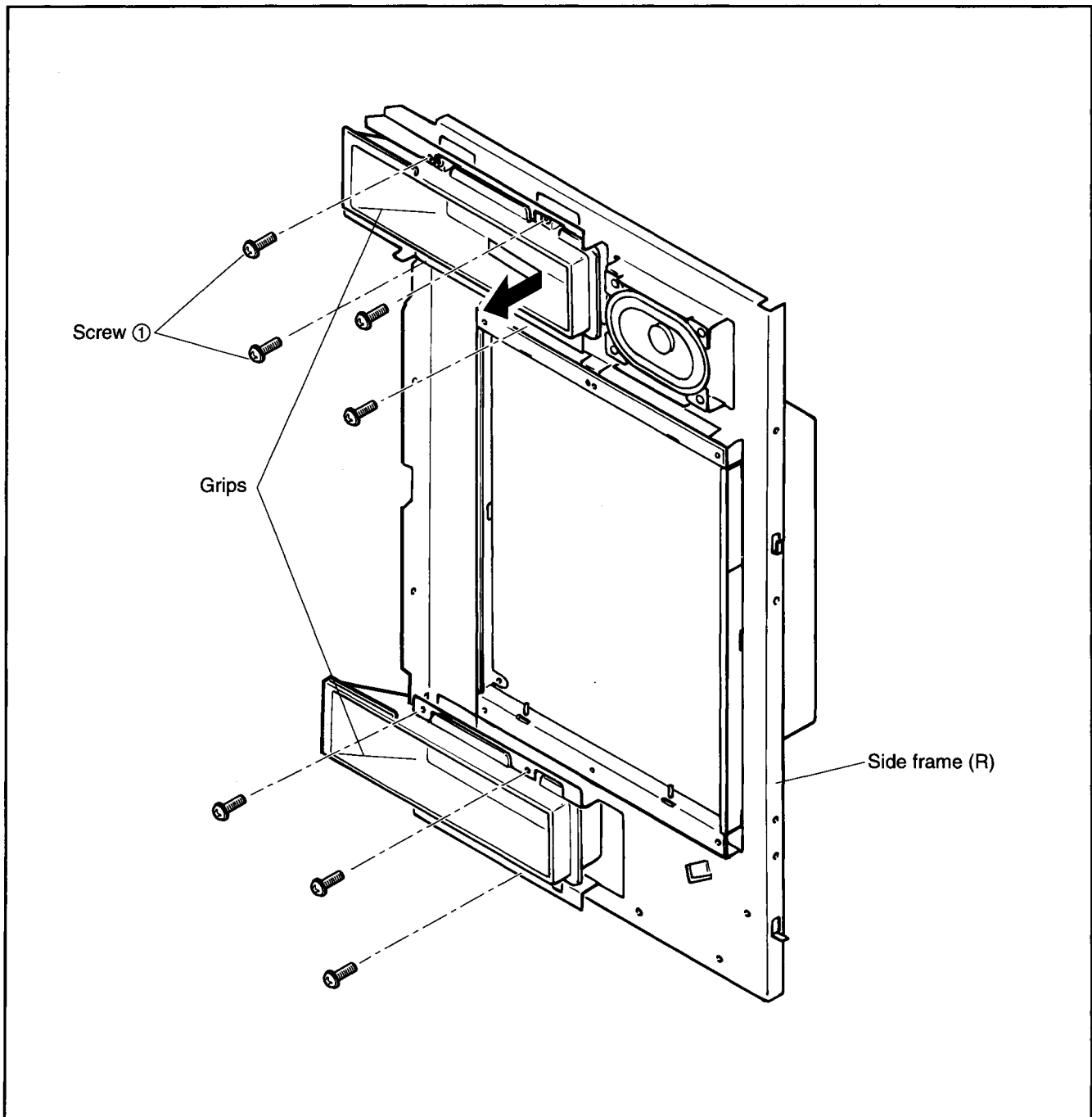
(1) Remove 3 screws ① and 2 screws ②, then the DEF PWB ASSY



## METHOD OF DISASSEMBLY

11.

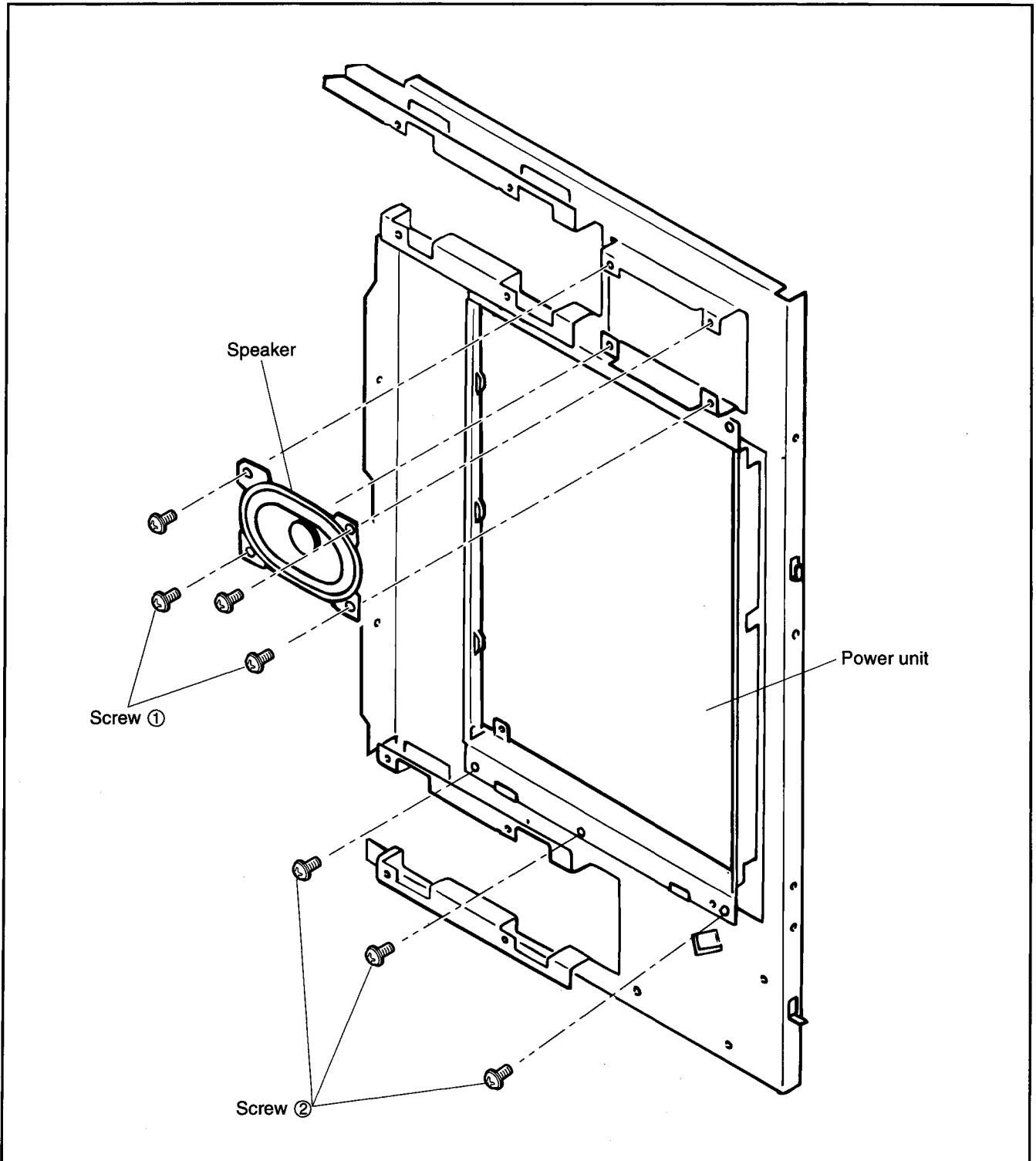
(1) Remove 7 screws ①, and take the grips from the side frame (R).



12.

(1) Remove 4 screws ①, then the speaker.

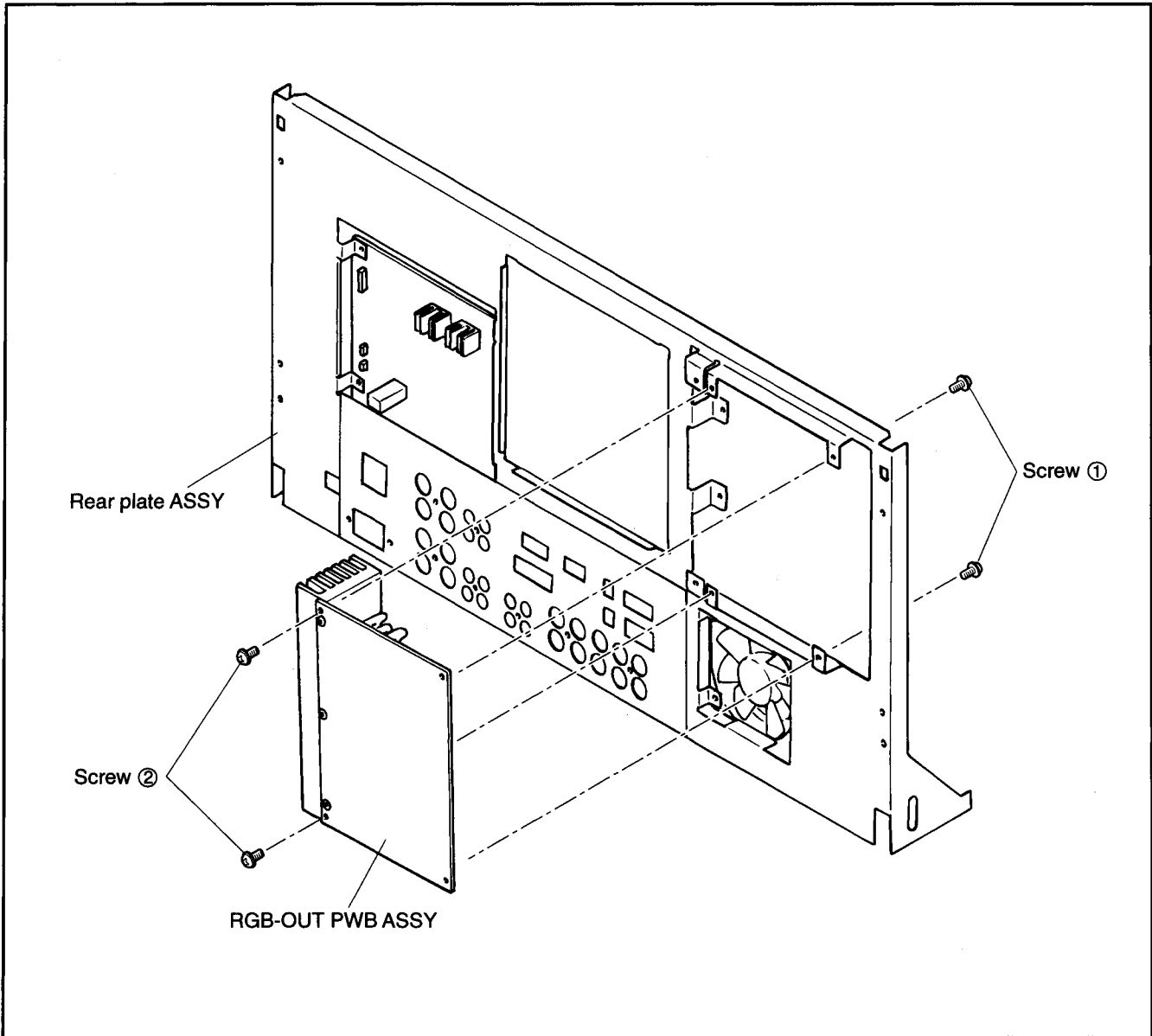
(2) Remove 6 screws ②, then the power unit.



## METHOD OF DISASSEMBLY

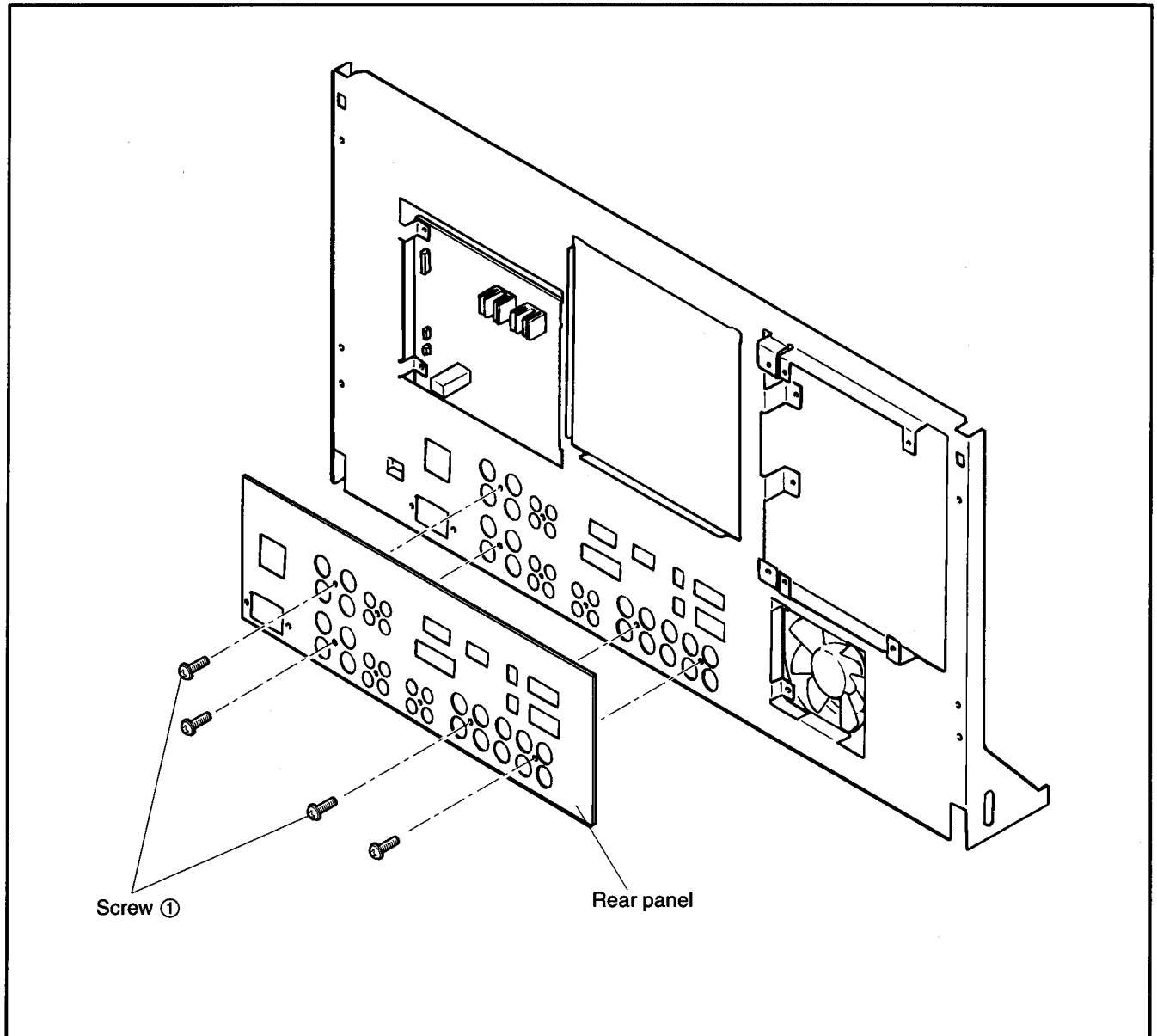
### 13.

(1) Remove 2 screws ① and 2 screws ②, and take the RGB-OUT PWB ASSY from the rear plate ASSY.



**14.**

(1) Remove 4 screws ①, then the rear panel.



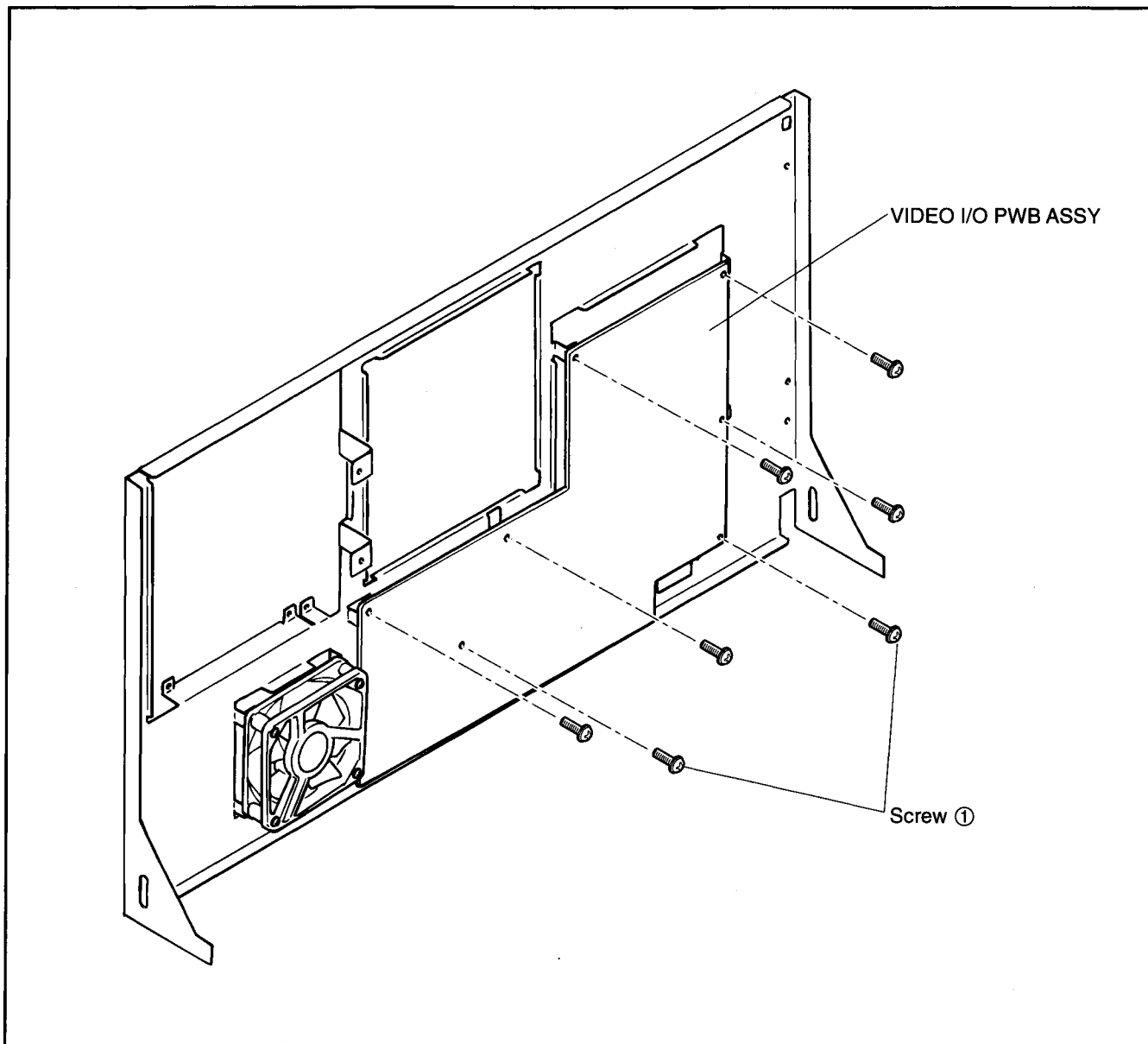
Screw ①

Rear panel

## METHOD OF DISASSEMBLY

15.

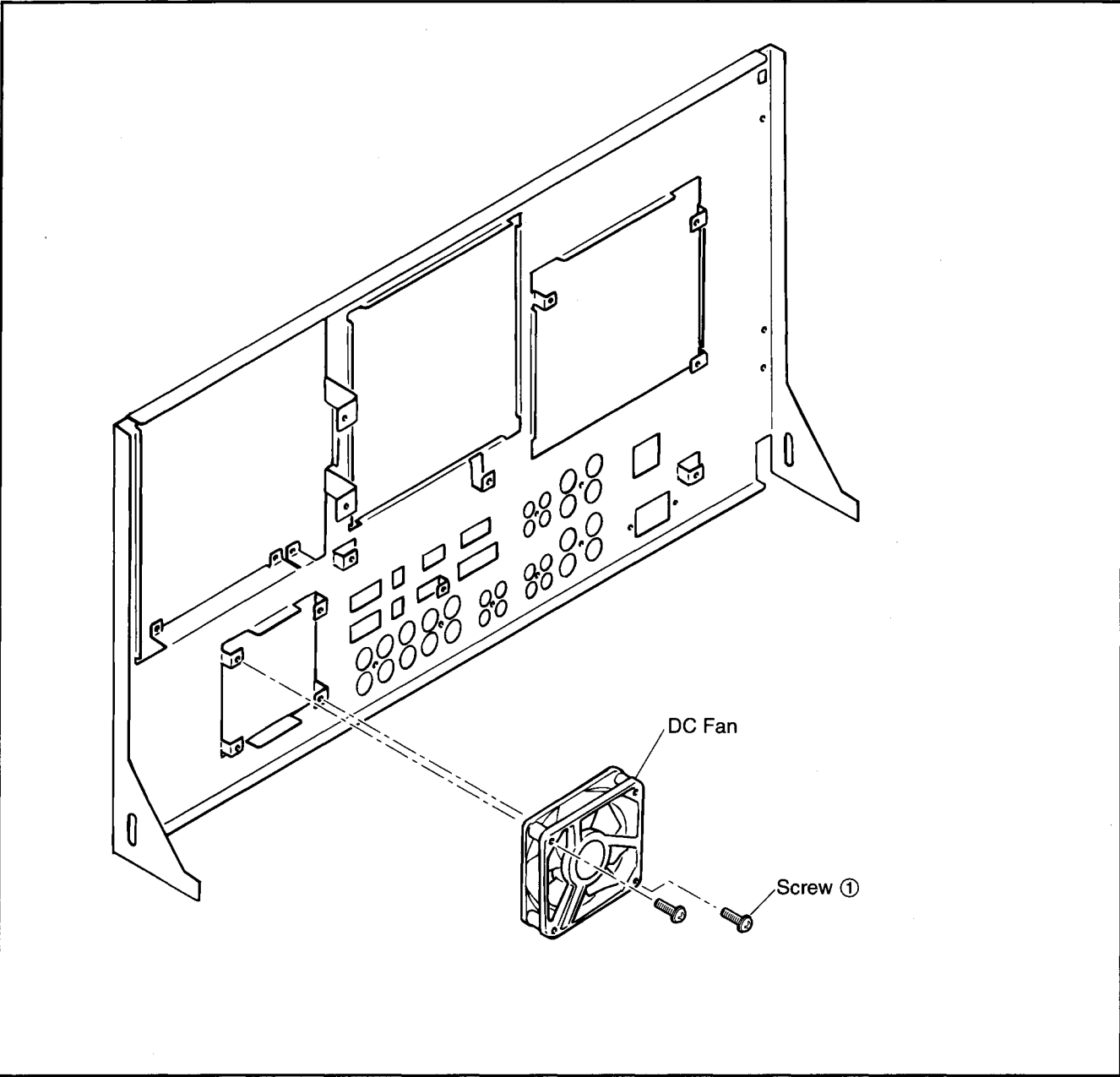
(1) Remove 7 screws ①, then the VIDEO I/O PWB ASSY.





16.

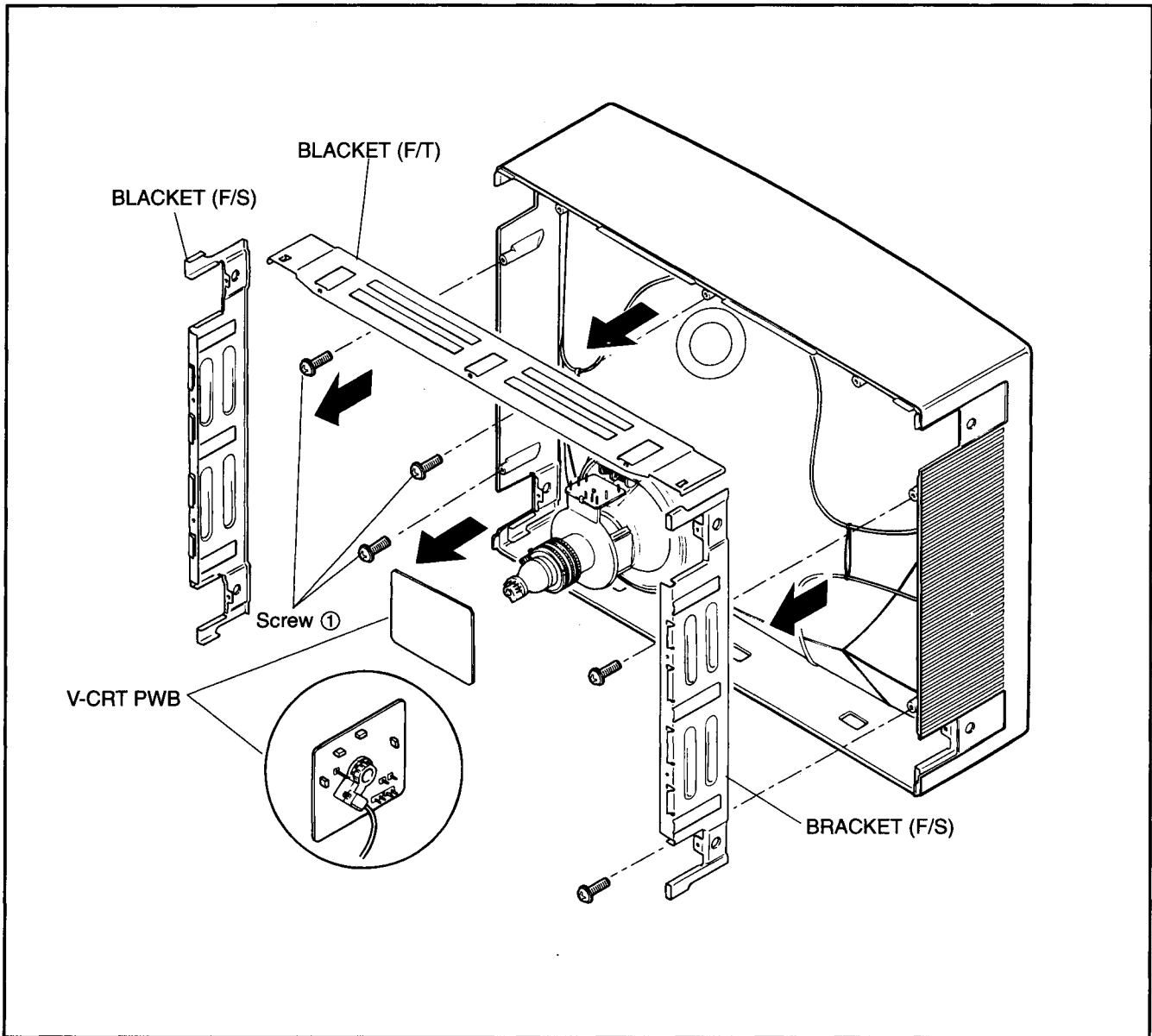
(1) Remove 2 screws ①, then the DC fan.



## METHOD OF DISASSEMBLY

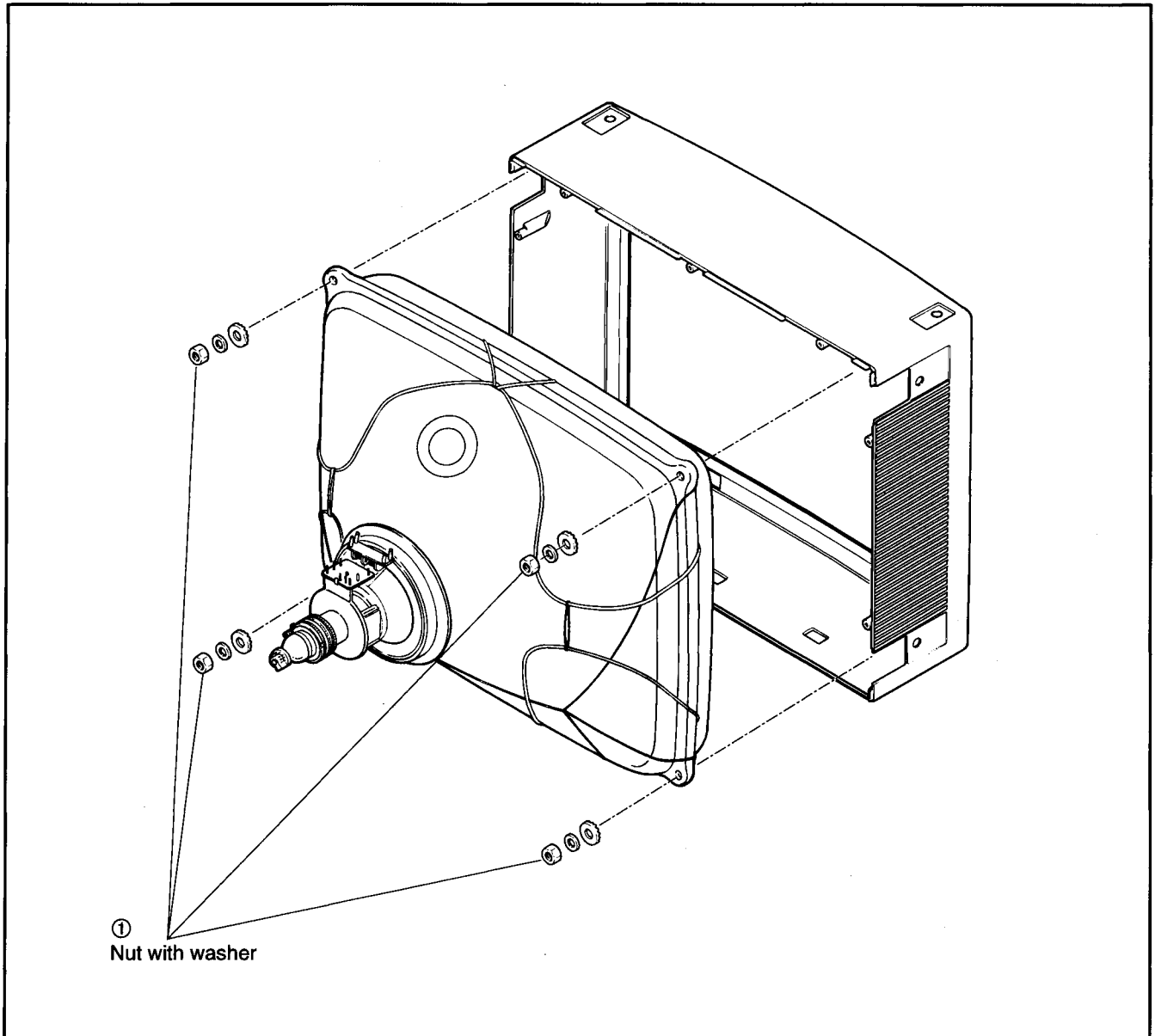
17.

(1) Remove 5 screws ①, then the bracket (F/T) and bracket (F/S).



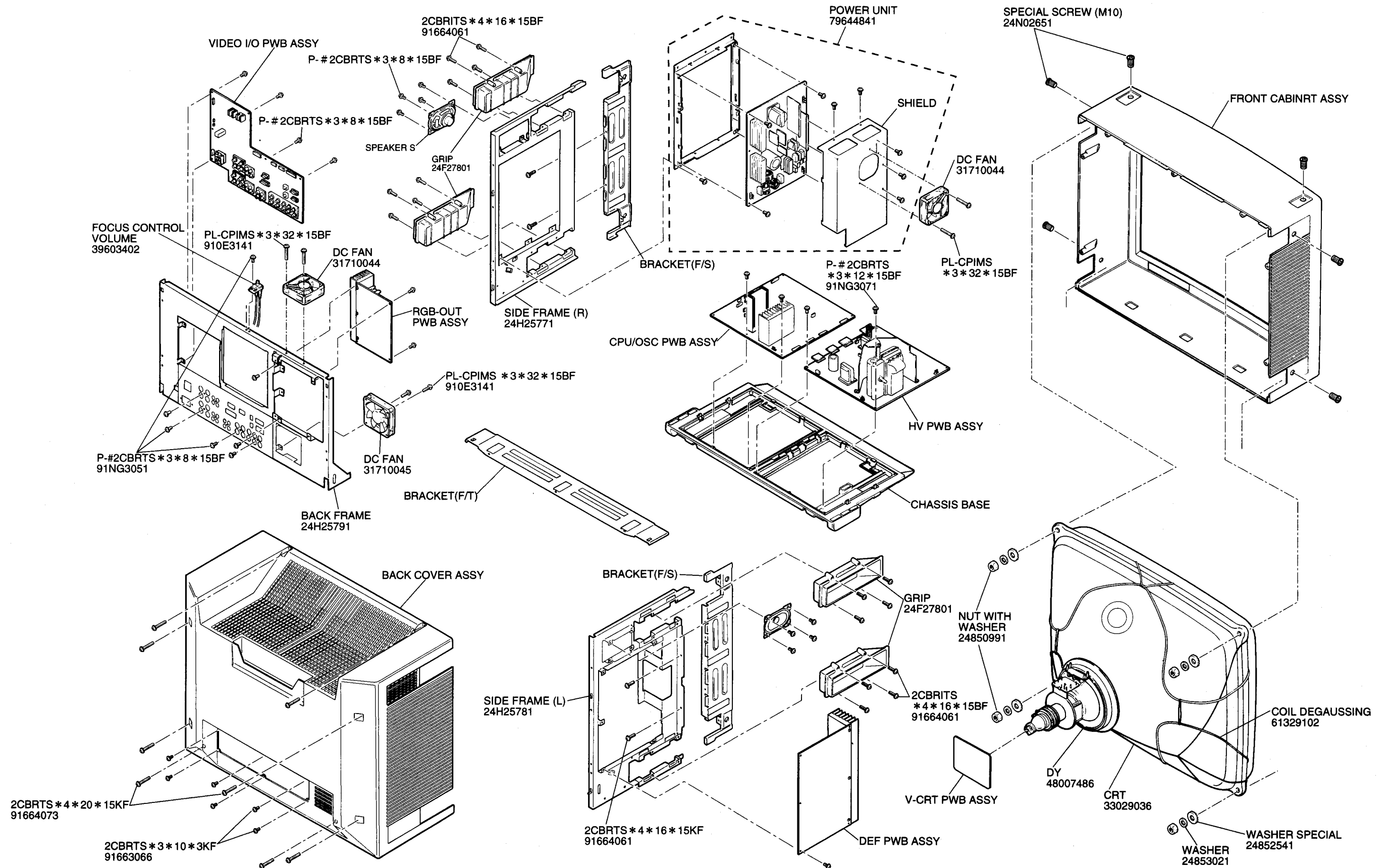
**18.**

(1) Remove 4 nuts ①, and take out the CRT.



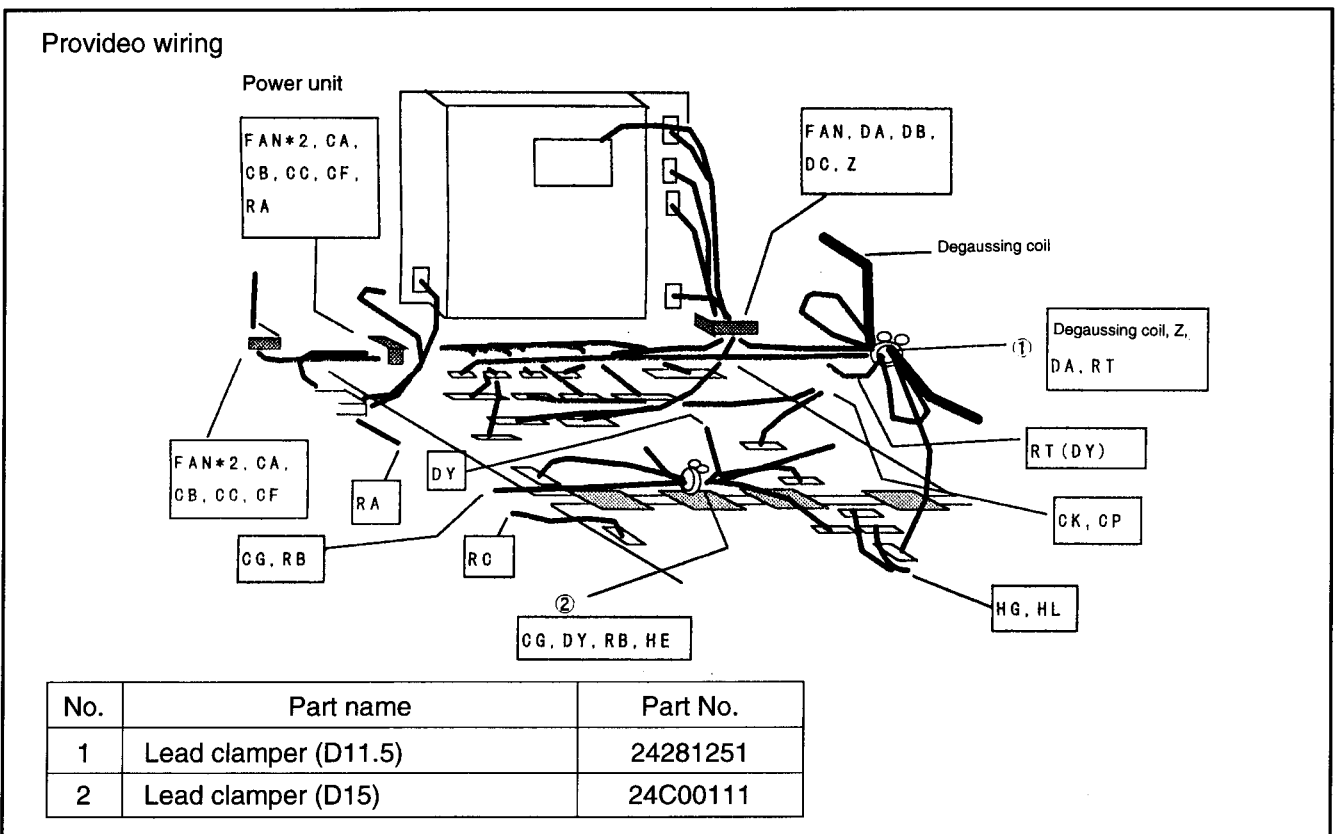
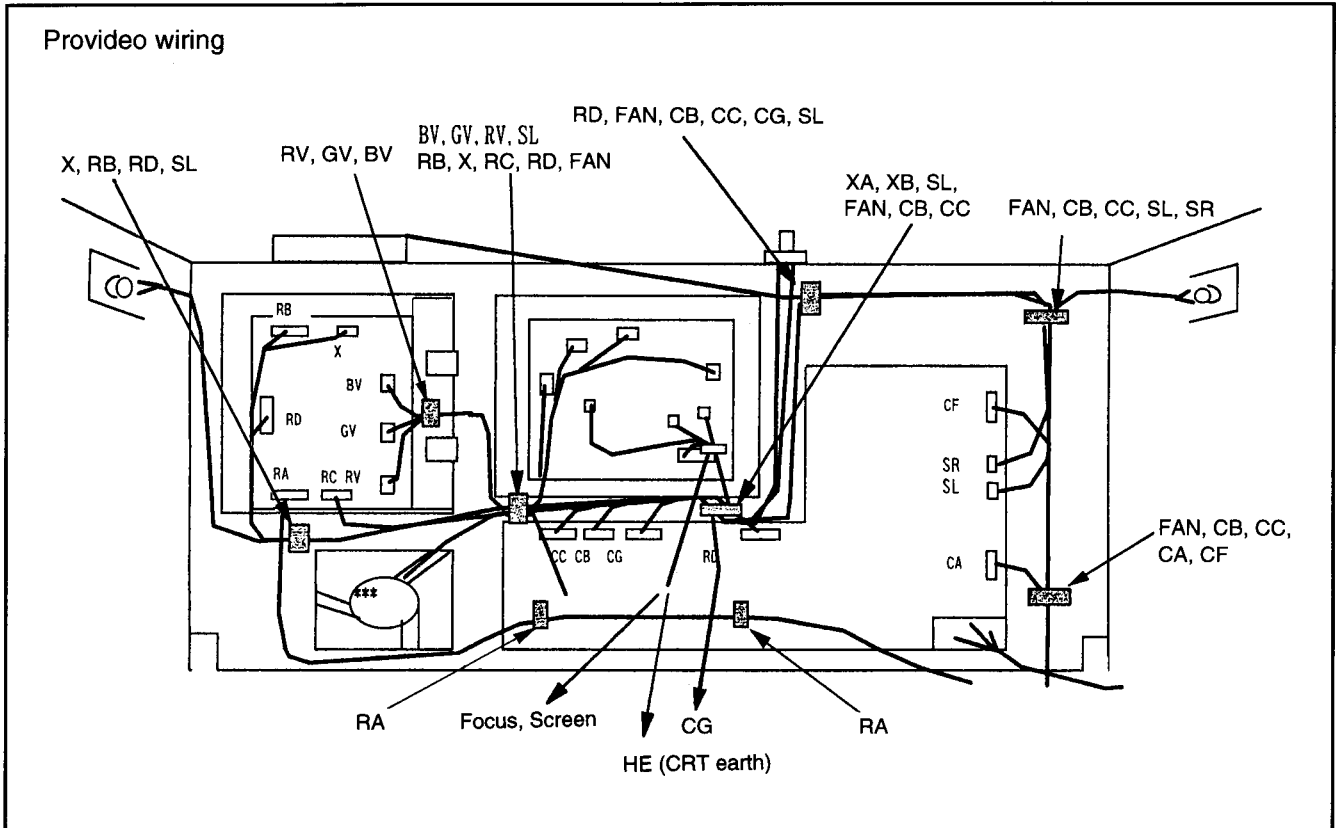
**MEMO**

# DISASSEMBLY

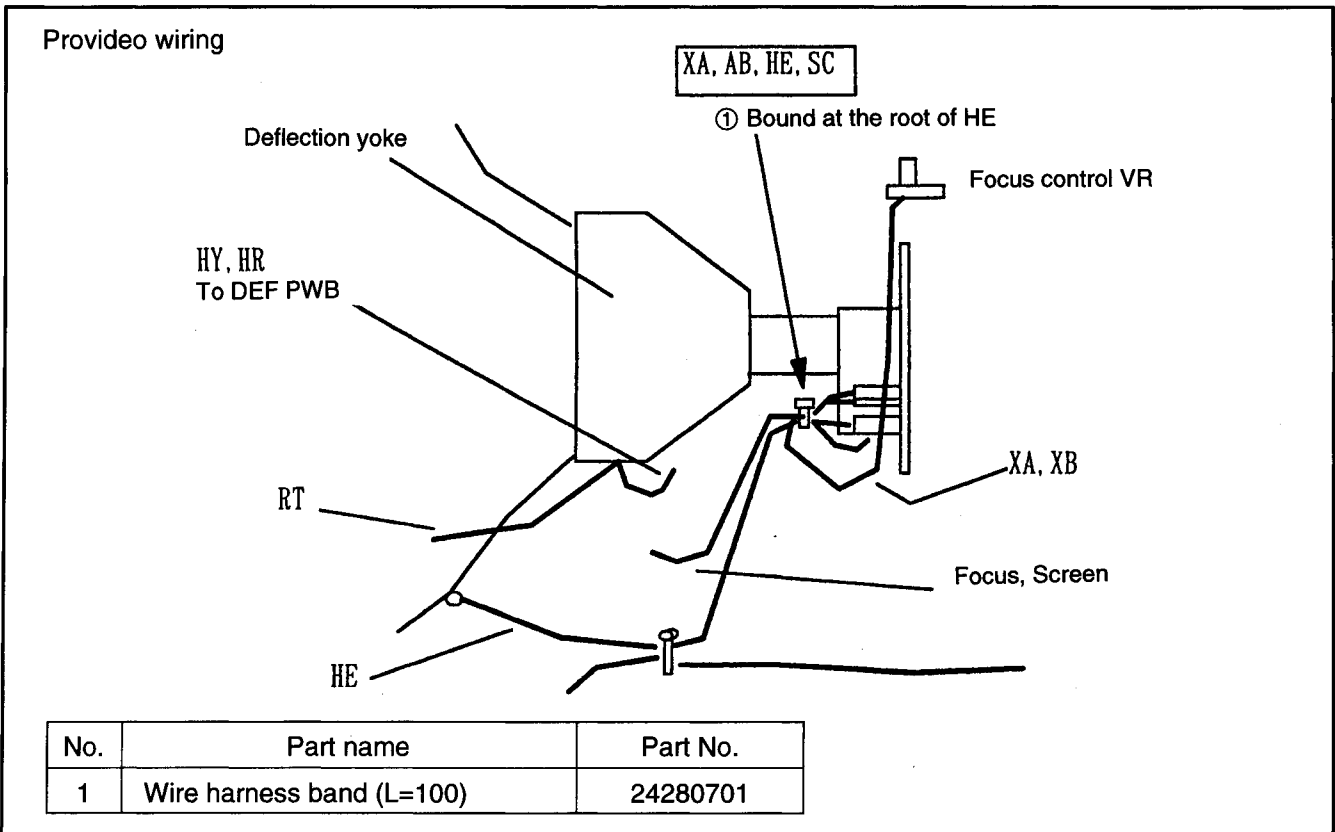
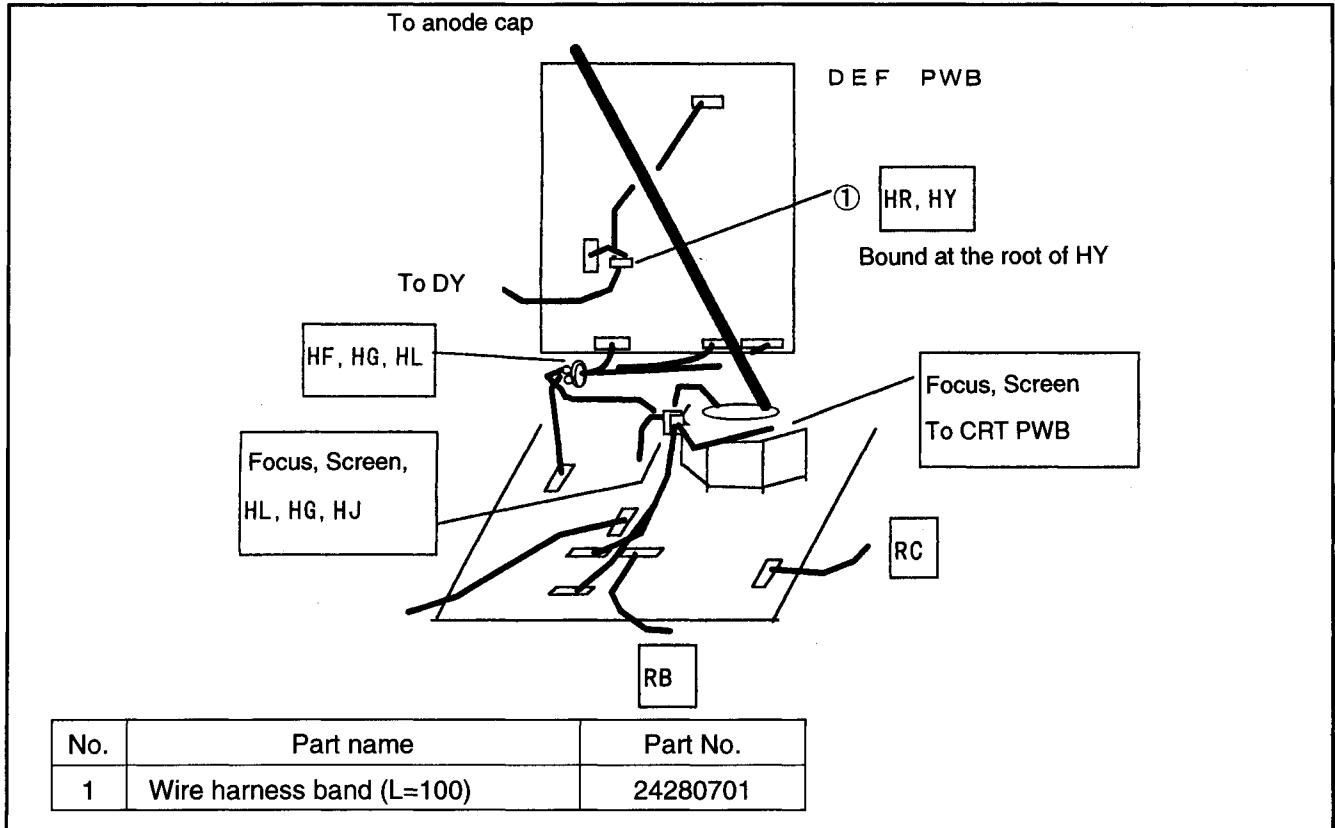


MEMO

# METHOD OF WIRING



# METHOD OF WIRING





# PACKAGING

## 1. XP-2990

### Packing details 1

#### Power cord SASSY

Bag, polyethylene (150 \* 370)

24813191

Line cord UC3S L3.0

70810759

#### Service bag SASSY

Paper bag (270 \* 382) 24M14211

Battery, dry cell SUM-3 68043001

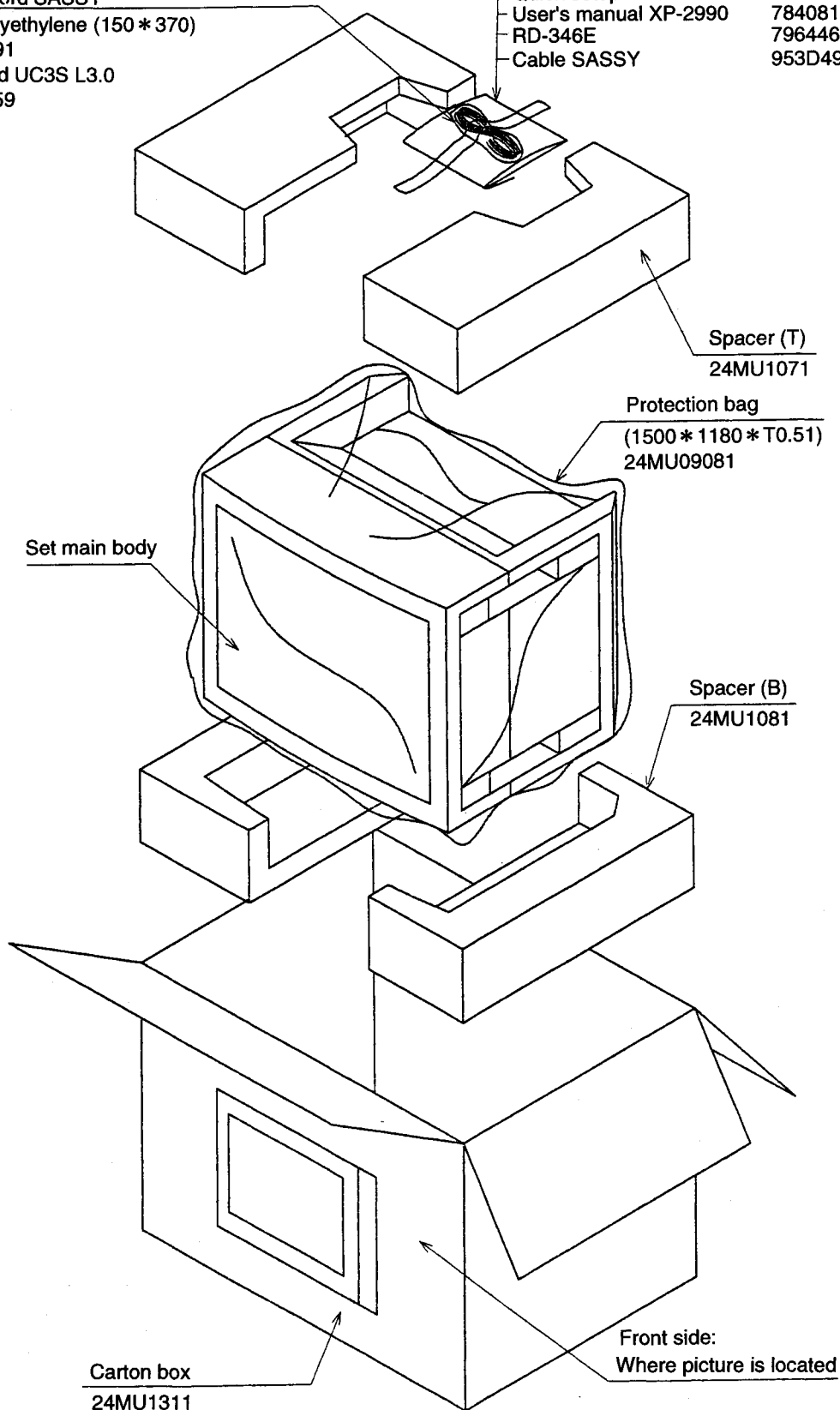
Registration card (VSD) 78037171

Quick setup card 78037191

User's manual XP-2990 78408132

RD-346E 79644641

Cable SASSY 953D4971

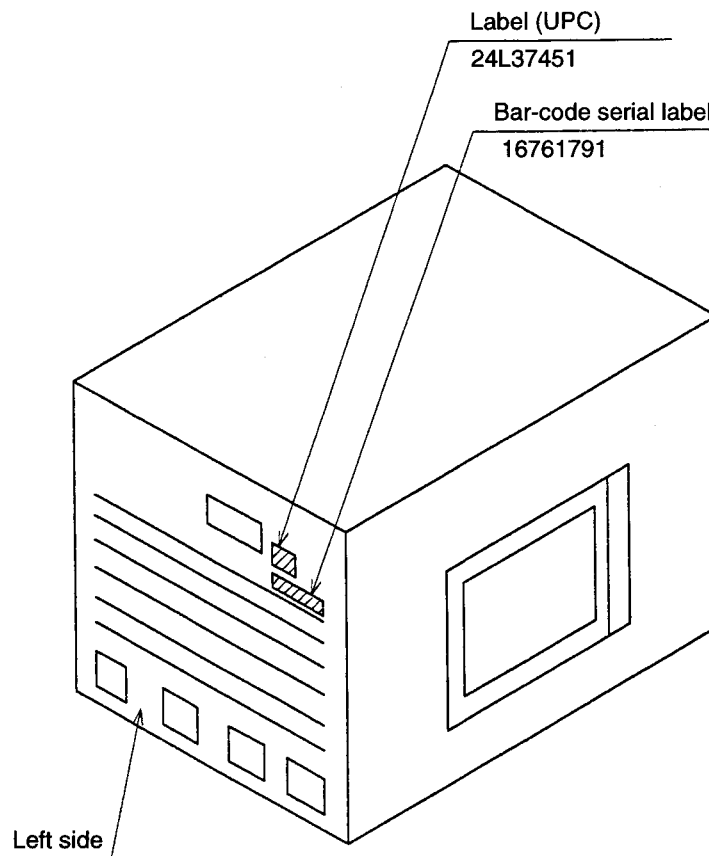


# PACKAGING

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## Packing details 2

Necessary items shall be printed on the bar-code serial label (16761791), which shall then be stuck to the right side of the carton box. (Contents of printing shall conform to the instructions from production Engineering Div.)



**2. XM-2960**

Packing details 1

Power cord SASSY

Bag, polyethylene (150 \* 370)

24813191

Line cord UC3S L3.0

70810759

Service bag SASSY

Paper bag (270 \* 382) 24M14211

Battery, dry cell SUM-3 68043001

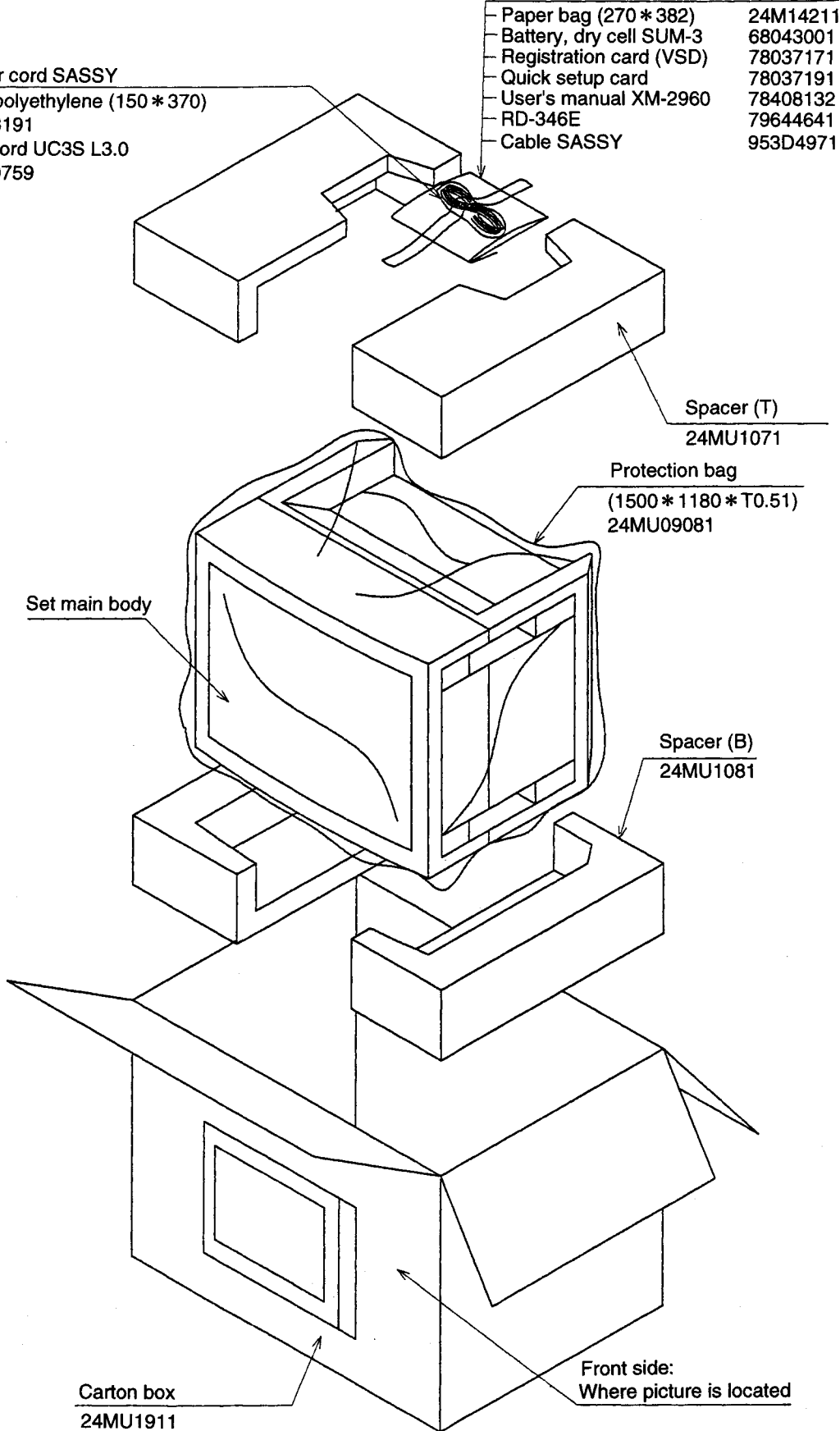
Registration card (VSD) 78037171

Quick setup card 78037191

User's manual XM-2960 78408132

RD-346E 79644641

Cable SASSY 953D4971



Spacer (T)

24MU1071

Protection bag

(1500 \* 1180 \* T0.51)

24MU09081

Set main body

Spacer (B)

24MU1081

Carton box

24MU1911

Front side:

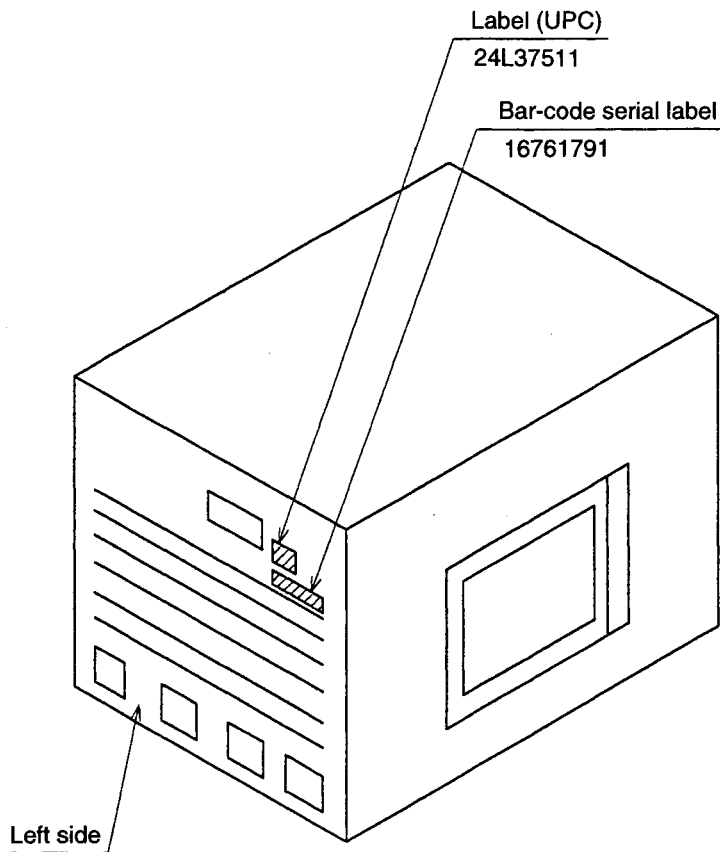
Where picture is located

# PACKAGING

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## Packing details 2

Necessary items shall be printed on the bar-code serial label (16761791), which shall then be stuck to the right side of the carton box. (Contents of printing shall conform to the instructions from production Engineering Div.)



**3. XP-2990G**

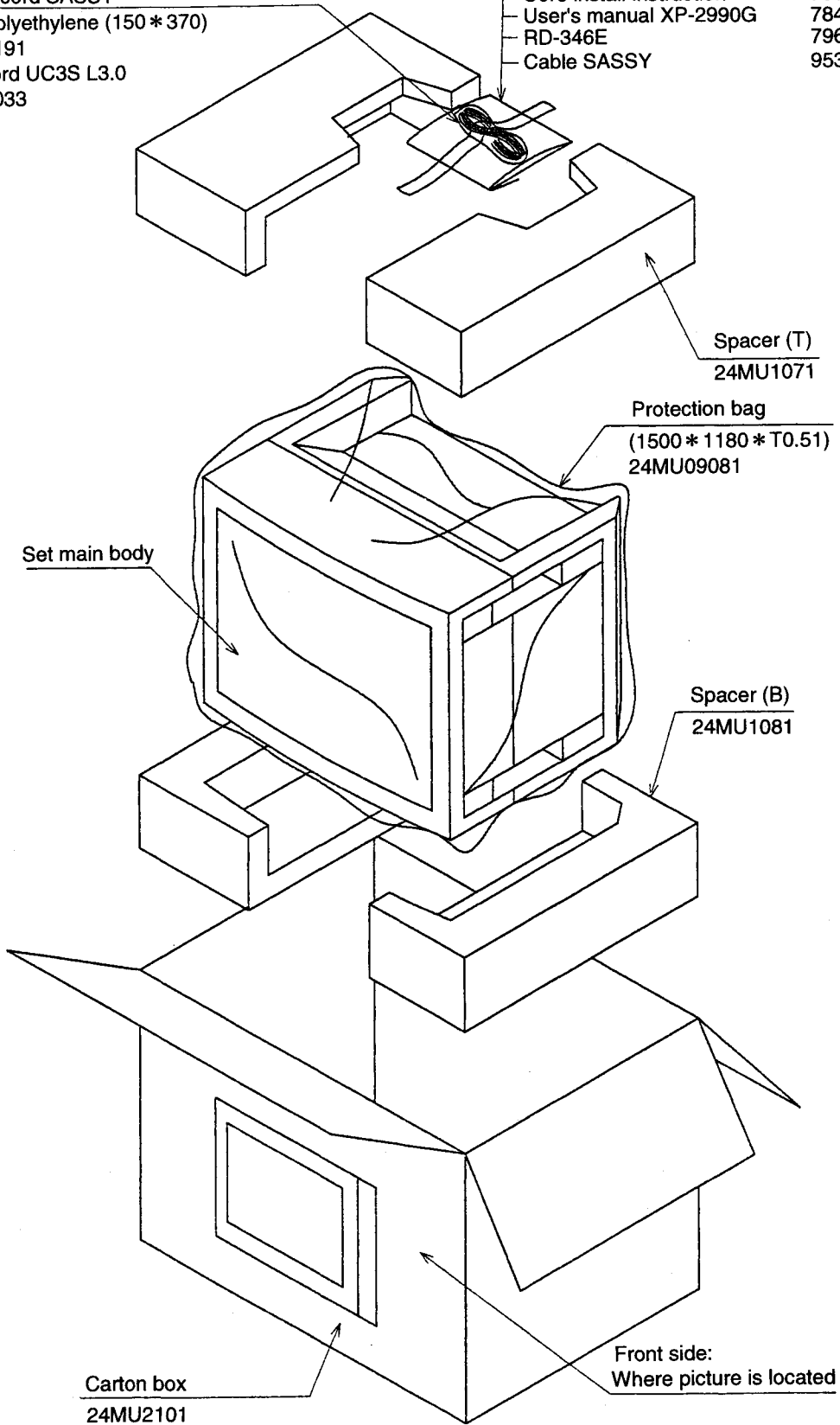
Packing details 1

Power cord SASSY

Bag, polyethylene (150 \* 370)  
24813191  
Line cord UC3S L3.0  
70800033

Service bag SASSY

- Paper bag (270 * 382)	24M14211
- Battery, dry cell SUM-3	68043001
- X-DRY license XP-29Plus (G)	78037371
- Core install instruction	78037491
- User's manual XP-2990G	78408481
- RD-346E	79644641
- Cable SASSY	953D4971



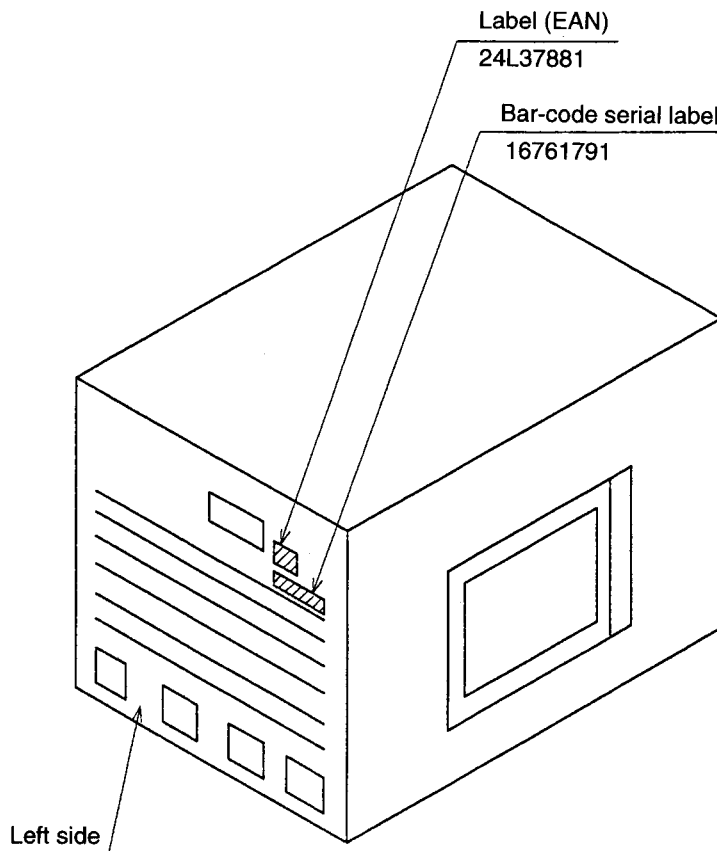
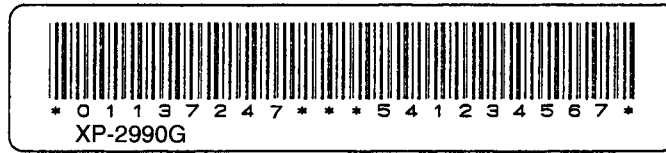
Carton box  
24MU2101

Front side:  
Where picture is located

# PACKAGING

## Packing details 2

Necessary items shall be printed on the bar-code serial label (16761791), which shall then be stuck to the right side of the carton box. (Contents of printing shall conform to the instructions from production Engineering Div.)



**4. XM-2960G**

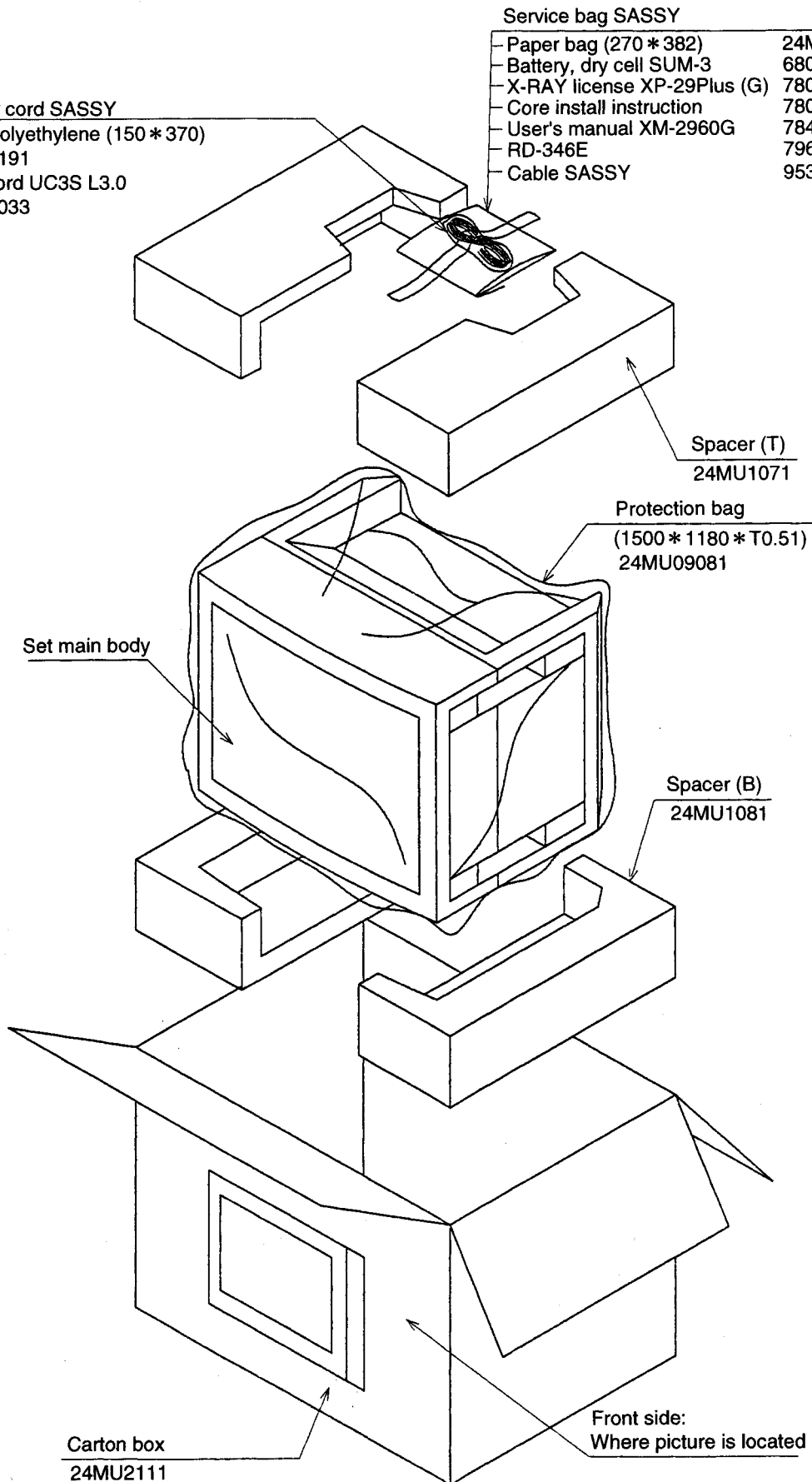
Packing details 1

Power cord SASSY

Bag, polyethylene (150 \* 370)  
24813191  
Line cord UC3S L3.0  
70800033

Service bag SASSY

- Paper bag (270 * 382)	24M14211
- Battery, dry cell SUM-3	68043001
- X-RAY license XP-29Plus (G)	78037371
- Core install instruction	78037491
- User's manual XM-2960G	78408481
- RD-346E	79644641
- Cable SASSY	953D4971



Spacer (T)  
24MU1071

Protection bag  
(1500 \* 1180 \* T0.51)  
24MU09081

Spacer (B)  
24MU1081

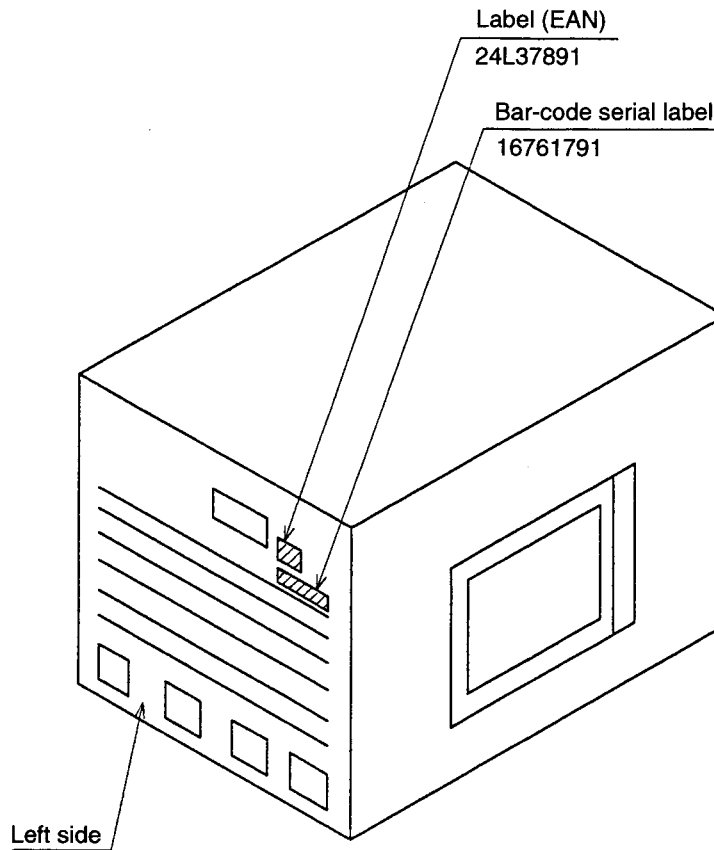
Carton box  
24MU2111

Front side:  
Where picture is located

# PACKAGING

## Packing details 2

Necessary items shall be printed on the bar-code serial label (16761791), which shall then be stuck to the right side of the carton box. (Contents of printing shall conform to the instructions from production Engineering Div.)





# REPLACEMENT PART LIST

## Notes:

1. Parts orders must contain model name, parts number and description.
2. When you place an order for spare parts, please refer to the respective service manual and mention the right parts number on your P.O. Sheets.

3. Standard resistors, capacitors and coils which are normally available from local electronics suppliers are not stocked in our warehouse.
4. The components identified by a  $\Delta$  mark or with the symbol Nos. shaded are critical for safety. Replace only with parts number specified.  
The letters NSP in the table indicate non-service parts.

## 1. XP-2990

SYMBOL	PARTS NO	DESCRIPTION
*** CRT & TUNER ***		
CRT	33029036	CRT-M68LMF256X
*** ICS ***		
IC1003	370EC030	MOS HD74HC573FP-EL
IC1004	37058820	MOS UPD78P018FYCW
IC1005	370E3275	MOS HD74HC138FPTL
IC1006	37058805	MOS 24LC08B/P
IC1007	37056122	MOS UPD71055C
IC1008	371E1568	IC PST529G-2(T) (3.3V RES)
IC1010	37058829	MOS UPD78P014YCW
IC1011	37058582	MOS MAX232CPE (TRNSMIT)
IC1012	37056111	MOS UPD71051C
IC1013	37056111	MOS UPD71051C
IC1014	370E3306	MOS UPD74HC32GS-T2
IC1015	37056122	MOS UPD71055C
IC1022	37005160	IC MC7812CT (JBL1045CT)
IC1023	37005164	IC MC7912CT (REG)
IC1024	37005228	IC PQ05RF1 (REG)
IC1030	37009037	IC UPC1885CT
IC1031	370E3425	MOS UPD74HC221AG-T1
IC1032	37101395	IC BA10324
IC1033	37011320	IC LA6500
IC1301	37001086	IC TA8211AH (AMP)
IC1302	37001075	IC UPC1406HA (DC-CONT)
IC1401	37011068	IC UPC4558C (OP AMP)
IC1402	37006023	IC STK792-110
IC1403	37005315	IC NJM7818FA
IC1404	37005316	IC NJM7918FA
IC2002	37056616	IC BA10358
IC5003	370K0011	IC UPC78L12T-E2
IC5005	37058804	MOS M62353P
IC5006	37011363	IC M52723SP
IC5501	37056616	IC BA10358
IC5502	37101395	IC BA10324
IC5503	37058477	MOS UPD6345C (DRIVER)
IC5504	37005085	IC UPC78L12J
IC701	37011361	IC MM1313AD (AV-SW)
IC7202	370AA009	IC MM1112XF (V-SW)

SYMBOL	PARTS NO	DESCRIPTION
IC7205	370AA008	IC MM1111XF (V-SW)
IC7208	370AA008	IC MM1111XF (V-SW)
IC7209	37011342	IC TA8772AN (1H DL)
IC7210	37003058	IC TA8880CN
IC7211	370E3413	MOS UPD4538BG-T2
IC7213	37903282	IC UPC7805AHF
IC7214	37005093	IC NJM7809FA
IC7401	37RAA004	IC CXA1686M-T6
IC7402	37R58088	MOA CXD2024AQ
IC7404	37011299	IC LA7950 (50/60 SW)
IC8001	37010006	IC M52320SP
IC8002	370EH018	MOS M62358FP-T5BC
IC8004	37005256	IC UPC7812AHF (REG)
IC8005	37903282	IC UPC7805AHF
IC801	37RED061	MOS 24LC21T-1/SN
IC802	370E6009	MOS UPD4066BG (T2)
IC803	37011018	IC UPC311C (COMP)
IC804	37056615	IC BA10393
IC805	37011018	IC UPC311C (COMP)
IC8101	37RAA010	IC AD8013AR-14-REEL
RV101	37058792	PHOTO SENSOR SBX8025A-F
*** TRANSISTORS ***		
Q1001	35CB0015	TR 2SC1623-T2B(180°) L5
Q1020	35CB0015	TR 2SC1623-T2B(180°) L5
Q1021	35CB0015	TR 2SC1623-T2B(180°) L5
Q1023	35CB0015	TR 2SC1623-T2B(180°) L5
Q1026	35EB0002	TR FA1A4M-T2B(180°)
Q1030	35CB0015	TR 2SC1623-T2B(180°) L5
Q1033	35CB0015	TR 2SC1623-T2B(180°) L5
Q1034	35CB0015	TR 2SC1623-T2B(180°) L5
Q1035	35CB0015	TR 2SC1623-T2B(180°) L5
Q1038	35CB0015	TR 2SC1623-T2B(180°) L5
Q1044	35EB0002	TR FA1A4M-T2B(180°)
Q1050	35CB0015	TR 2SC1623-T2B(180°) L5
Q1051	35CB0015	TR 2SC1623-T2B(180°) L5
Q1052	35EB0002	TR FA1A4M-T2B(180°)
Q1053	35EB0026	TR FA1L4M-T2B
Q1055	35EB0026	TR FA1L4M-T2B

SYMBOL	PARTS NO	DESCRIPTION
Q1056	35E80026	TR FA1L4M-T2B
Q1057	35C80015	TR 2SC1623-T2B(180°) L5
Q1058	35A80015	TR 2SA812-T2B(180°) M5
Q1059	35A80015	TR 2SA812-T2B(180°) M5
Q1301	35C80015	TR 2SC1623-T2B(180°) L5
Q1302	35C80015	TR 2SC1623-T2B(180°) L5
Q1401	35E80002	TR FA1A4M-T2B(180°)
Q1402	35C80015	TR 2SC1623-T2B(180°) L5
Q1403	35A80015	TR 2SA812-T2B(180°) M5
Q1404	35C80015	TR 2SC1623-T2B(180°) L5
Q1405	350H4418	TR,2SC1473-TA R
Q1407	35063411	TR,2SD401A K
Q5001	35127470	TR 2SJ306
Q5002	350E3218	TR 2SC1740S-T R
Q5003	350K5700	TR 2SA933S-T
Q5004	350E3218	TR 2SC1740S-T R
Q5005	350E3218	TR 2SC1740S-T R
Q5006	350A1500	TR 2SA1767-TA
Q5007	35122800	TR 2SK1271
Q5008	350E3218	TR 2SC1740S-T R
Q5009	350E3218	TR 2SC1740S-T R
Q5010	35005216	TR 2SA1018 P
Q5011	35084400	TR,2SC3063
Q5012	35007204	TR 2SA1381 D
Q5013	35084400	TR,2SC3063
Q5014	35094200	TR 2SC4572
Q5015	35005216	TR 2SA1018 P
Q5017	35124500	TR 2SJ196
Q5020	350H4418	TR,2SC1473-TA R
Q5023	351G0577	TR DTC144ESA-T
Q5024	351G0577	TR DTC144ESA-T
Q5025	35122800	TR 2SK1271
Q5027	350E3218	TR 2SC1740S-T R
Q5028	350A2020	TR 2SA933AS-T
Q5029	35095340	TR 2SC2518
Q5030	35025211	TR 2SB546 K
Q5031	35025211	TR 2SB546 K
Q5032	350H4418	TR,2SC1473-TA R
Q5033	350H4418	TR,2SC1473-TA R
Q5034	350H4418	TR,2SC1473-TA R

SYMBOL	PARTS NO	DESCRIPTION
Q5541	350E3218	TR 2SC1740S-T R
Q5542	350E3218	TR 2SC1740S-T R
Q5543	350E3218	TR 2SC1740S-T R
Q5544	350E3218	TR 2SC1740S-T R
Q705	35A80015	TR 2SA812-T2B(180°) M5
Q706	35A80015	TR 2SA812-T2B(180°) M5
Q707	35C80011	TR 2SC1623-T1B L5
Q7201	35E80026	TR FA1L4M-T2B
Q7202	35E80026	TR FA1L4M-T2B
Q7204	35C80011	TR 2SC1623-T1B L5
Q7205	35C80011	TR 2SC1623-T1B L5
Q7206	35C80011	TR 2SC1623-T1B L5
Q7207	35C80011	TR 2SC1623-T1B L5
Q7209	35C80011	TR 2SC1623-T1B L5
Q7210	35E80026	TR FA1L4M-T2B
Q7211	35E80026	TR FA1L4M-T2B
Q7212	35E80026	TR FA1L4M-T2B
Q7213	35E80026	TR FA1L4M-T2B
Q7214	35C80011	TR 2SC1623-T1B L5
Q7215	35E80026	TR FA1L4M-T2B
Q7216	35E80026	TR FA1L4M-T2B
Q7217	35C80011	TR 2SC1623-T1B L5
Q7218	35C80011	TR 2SC1623-T1B L5
Q7219	35C80011	TR 2SC1623-T1B L5
Q7220	35C80011	TR 2SC1623-T1B L5
Q7221	35C80011	TR 2SC1623-T1B L5
Q7222	35C80011	TR 2SC1623-T1B L5
Q7401	35C80011	TR 2SC1623-T1B L5
Q7402	35C80011	TR 2SC1623-T1B L5
Q7403	35C80011	TR 2SC1623-T1B L5
Q7404	35E80026	TR FA1L4M-T2B
Q7405	35A80015	TR 2SA812-T2B(180°) M5
Q7406	35A80015	TR 2SA812-T2B(180°) M5
Q7407	35A80015	TR 2SA812-T2B(180°) M5
Q7408	35A80015	TR 2SA812-T2B(180°) M5
Q7409	35A80015	TR 2SA812-T2B(180°) M5
Q7502	35C80011	TR 2SC1623-T1B L5
Q7503	35C80011	TR 2SC1623-T1B L5
Q8003	35C80011	TR 2SC1623-T1B L5
Q8007	35C80011	TR 2SC1623-T1B L5

SYMBOL	PARTS NO	DESCRIPTION
Q5035	35095340	TR 2SC2518
Q5036	350H4418	TR,2SC1473-TA R
Q5037	350E3218	TR 2SC1740S-T R
Q5038	350E3218	TR 2SC1740S-T R
Q5039	350A2020	TR 2SA933AS-T
Q5501	35095300	TR 2SC5144
Q5502	35128007	TR FS14SM-18A
Q5503	35128007	TR FS14SM-18A
Q5504	35122500	TR 2SK758
Q5505	35122500	TR 2SK758
Q5506	350E3218	TR 2SC1740S-T R
Q5507	350A2020	TR 2SA933AS-T
Q5508	35070812	TR 2SD1587 L
Q5509	350H4417	TR,2SC1473-TA Q
Q5510	350H4417	TR,2SC1473-TA Q
Q5511	35052317	TR,2SC1573 Q
Q5512	35070812	TR 2SD1587 L
Q5513	35031112	TR 2SB1096 L
Q5514	350E3218	TR 2SC1740S-T R
Q5515	350E3218	TR 2SC1740S-T R
Q5516	350E3218	TR 2SC1740S-T R
Q5517	350E3218	TR 2SC1740S-T R
Q5518	350E3218	TR 2SC1740S-T R
Q5519	350E3218	TR 2SC1740S-T R
Q5520	35127580	TR 2SK1642
Q5520B	35127580	TR 2SK1642
Q5521	35127580	TR 2SK1642
Q5522	35127580	TR 2SK1642
Q5523	35127580	TR 2SK1642
Q5524	35127580	TR 2SK1642
Q5525	35127580	TR 2SK1642
Q5526	35127580	TR 2SK1642
Q5527	35063412	TR 2SD401A L
Q5528	35063412	TR 2SD401A L
Q5529	35063412	TR 2SD401A L
Q5530	35063412	TR 2SD401A L
Q5533	351G0570	TR DTA144ESA-T
Q5535	351G0570	TR DTA144ESA-T
Q5536	351G0577	TR DTC144ESA-T
Q5540	350E3218	TR 2SC1740S-T R

SYMBOL	PARTS NO	DESCRIPTION
Q8008	35A80015	TR 2SA812-T2B(180°) M5
Q8009	35C80011	TR 2SC1623-T1B L5
Q801	35C80011	TR 2SC1623-T1B L5
Q8010	350H5017	TR,2SC3811-TA Q
Q8013	35A80015	TR 2SA812-T2B(180°) M5
Q8014	35C80011	TR 2SC1623-T1B L5
Q8015	35C80011	TR 2SC1623-T1B L5
Q802	35C80011	TR 2SC1623-T1B L5
Q803	35C80011	TR 2SC1623-T1B L5
Q804	35C80011	TR 2SC1623-T1B L5
Q805	35C80011	TR 2SC1623-T1B L5
Q806	35C80011	TR 2SC1623-T1B L5
Q807	35E80205	TR DTA144EKA-T146(0°)
Q808	35E80026	TR FA1L4M-T2B
Q810	35E80205	TR DTA144EKA-T146(0°)
Q8101	35095333	TR 2SC4271 E
Q8102	35095323	TR 2SC4623 E
Q8103	35084105	TR,2SC3600 E
Q8104	35006305	TR,2SA1406 E
Q8105	35012053	TR 2SA1371 E
Q8108	35095323	TR 2SC4623 E
Q8109	35084105	TR,2SC3600 E
Q811	35E80026	TR FA1L4M-T2B
Q8110	35006305	TR,2SA1406 E
Q8111	35012053	TR 2SA1371 E
Q8113	35095333	TR 2SC4271 E
Q8114	35095323	TR 2SC4623 E
Q8115	35084105	TR,2SC3600 E
Q8116	35006305	TR,2SA1406 E
Q8117	35012053	TR 2SA1371 E
Q8119	35C80011	TR 2SC1623-T1B L5
Q8120	35C80011	TR 2SC1623-T1B L5
Q8124	35C80011	TR 2SC1623-T1B L5
Q8125	35C80011	TR 2SC1623-T1B L5
Q8126	35C80011	TR 2SC1623-T1B L5
Q8127	350H4417	TR,2SC1473-TA Q
Q8128	350H4417	TR,2SC1473-TA Q
Q8129	350H4417	TR,2SC1473-TA Q
Q813	35C80011	TR 2SC1623-T1B L5
Q8133	35CB2433	TR 2SC4269 4-TB

SYMBOL	PARTS NO	DESCRIPTION
Q8134	35CB2433	TR 2SC4269 4-TB
Q8135	35CB2433	TR 2SC4269 4-TB
Q814	35CB0011	TR 2SC1623-T1B L5
Q815	35CB0011	TR 2SC1623-T1B L5
Q816	35EB0205	TR DTA144EKA-T146(0°)
Q817	35EB0026	TR FAIL4M-T2B
Q818	35CB0011	TR 2SC1623-T1B L5
Q819	35EB0026	TR FAIL4M-T2B
Q820	35EB0026	TR FAIL4M-T2B
Q8207	35095333	TR 2SC4271 E
Q821	35EB0026	TR FAIL4M-T2B
Q823	35EB0026	TR FAIL4M-T2B
Q824	35EB0026	TR FAIL4M-T2B
Q825	35CB0011	TR 2SC1623-T1B L5
Q826	35CB0011	TR 2SC1623-T1B L5
Q827	35CB2433	TR 2SC4269 4-TB
Q828	35AB0123	TR 2SA1461-T2B Y23
Q829	35CB2433	TR 2SC4269 4-TB
Q830	35AB0123	TR 2SA1461-T2B Y23
Q831	35CB2433	TR 2SC4269 4-TB
Q832	35AB0123	TR 2SA1461-T2B Y23

\*\*\* DIODES \*\*\*

D1001	36CB0213	DIODE DAN212K-T146
D1002	36CB0213	DIODE DAN212K-T146
D1003	361K7522	DIODE ERA15-02 V1
D101	36801348	LED SPR39MVWF
D1011	361K7522	DIODE ERA15-02 V1
D1015	36CB0213	DIODE DAN212K-T146
D1016	36CB0213	DIODE DAN212K-T146
D1021	36CB0213	DIODE DAN212K-T146
D1022	36CB0213	DIODE DAN212K-T146
D1023	36CB0213	DIODE DAN212K-T146
D1024	36CB0213	DIODE DAN212K-T146
D1025	36CB0213	DIODE DAN212K-T146
D1031	36CB0079	DIODE DAN202K-T146(0°)
D1034	36107562	DIODE EGP10G
D1035	36107562	DIODE EGP10G
D1036	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D1037	36CB0213	DIODE DAN212K-T146
D1038	36CB0213	DIODE DAN212K-T146
D1039	36CB0213	DIODE DAN212K-T146
D1040	36CB0213	DIODE DAN212K-T146
D1041	36CB0079	DIODE DAN202K-T146(0°)
D1042	36CB0213	DIODE DAN212K-T146
D1043	36CB0079	DIODE DAN202K-T146(0°)
D1044	36CB0213	DIODE DAN212K-T146
D1301	36CB0213	DIODE DAN212K-T146
D1302	36CB0213	DIODE DAN212K-T146
D1303	36CB0079	DIODE DAN202K-T146(0°)
D1401	36CB0213	DIODE DAN212K-T146
D1402	36CB0213	DIODE DAN212K-T146
D1403	36CB0079	DIODE DAN202K-T146(0°)
D1407	36CB0213	DIODE DAN212K-T146
D1408	36CB0213	DIODE DAN212K-T146
D1409	36CB0213	DIODE DAN212K-T146
D5001	36107562	DIODE EGP10G
D5002	36107638	DIODE EGP30G
D5003	360K1049	DIODE 1SS270A TA
D5004	360K1049	DIODE 1SS270A TA
D5006	36107562	DIODE EGP10G
D5007	360K1049	DIODE 1SS270A TA
D5008	360K1049	DIODE 1SS270A TA
D5010	360K1049	DIODE 1SS270A TA
D5011	36107761	DIODE RU4DS(LF-J2)
D5012	36107761	DIODE RU4DS(LF-J2)
D5013	36108254	DIODE ESAC39M-04D F77
D5015	360K1049	DIODE 1SS270A TA
D5016	360K1049	DIODE 1SS270A TA
D5017	360K1049	DIODE 1SS270A TA
D5018	360K1049	DIODE 1SS270A TA
D5019	36107562	DIODE EGP10G
D5020	360K1049	DIODE 1SS270A TA
D5022	360K1049	DIODE 1SS270A TA
D5023	361K7522	DIODE ERA15-02 V1
D5024	360K1049	DIODE 1SS270A TA
D5025	360K1049	DIODE 1SS270A TA
D5501	36107765	DIODE FMQ-G5GS
D5502	36107285	DIODE SB340

SYMBOL	PARTS NO	DESCRIPTION
D5503	361K7541	DIODE EG01A-V1
D5504	361K7541	DIODE EG01A-V1
D5507	360K1049	DIODE 1SS270A TA
D5508	360K1049	DIODE 1SS270A TA
D5509	361K7737	DIODE EG01Z V1
D5510	361K7737	DIODE EG01Z V1
D5513	361K7307	DIODE RG1CV1
D5514	361K7737	DIODE EG01Z V1
D5516	360K1049	DIODE 1SS270A TA
D5517	360K1049	DIODE 1SS270A TA
D5518	360K1049	DIODE 1SS270A TA
D5519	360K1049	DIODE 1SS270A TA
D5520	360K1049	DIODE 1SS270A TA
D5521	360K1049	DIODE 1SS270A TA
D5522	360K1049	DIODE 1SS270A TA
D701	361K7522	DIODE ERA15-02 V1
D7501	36CB0213	DIODE DAN212K-T146
D7502	36CB0213	DIODE DAN212K-T146
D7503	36CB0213	DIODE DAN212K-T146
D7504	36CB0213	DIODE DAN212K-T146
D7505	361K7522	DIODE ERA15-02 V1
D7506	361K7522	DIODE ERA15-02 V1
D7507	36CB0213	DIODE DAN212K-T146
D7508	36CB0213	DIODE DAN212K-T146
D8001	36CB0213	DIODE DAN212K-T146
D8002	36CB0213	DIODE DAN212K-T146
D8003	36CB0213	DIODE DAN212K-T146
D8004	36CB0213	DIODE DAN212K-T146
D8005	36CB0213	DIODE DAN212K-T146
D8006	36CB0213	DIODE DAN212K-T146
D8007	360K1037	DIODE 1SS83
D8008	361K8232	DIODE RB721Q-T72
D8009	361K8232	DIODE RB721Q-T72
D801	36CB0213	DIODE DAN212K-T146
D8010	361K8232	DIODE RB721Q-T72
D8011	361K7522	DIODE ERA15-02 V1
D802	36CB0213	DIODE DAN212K-T146
D803	36CB0213	DIODE DAN212K-T146
D804	36CB0213	DIODE DAN212K-T146
D805	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D806	36CB0213	DIODE DAN212K-T146
D8101	36CB0213	DIODE DAN212K-T146
D8102	361K8232	DIODE RB721Q-T72
D8103	360K1025	DIODE 1SS133
D8104	360K1025	DIODE 1SS133
D8105	360K1037	DIODE 1SS83
D8106	360K1037	DIODE 1SS83
D8107	360K1037	DIODE 1SS83
D8108	36CB0213	DIODE DAN212K-T146
D8109	361K8232	DIODE RB721Q-T72
D811	36CB0213	DIODE DAN212K-T146
D8110	360K1025	DIODE 1SS133
D8111	360K1025	DIODE 1SS133
D8112	360K1037	DIODE 1SS83
D8113	360K1037	DIODE 1SS83
D8114	360K1037	DIODE 1SS83
D8115	36CB0213	DIODE DAN212K-T146
D8116	361K8232	DIODE RB721Q-T72
D8117	360K1025	DIODE 1SS133
D8118	360K1025	DIODE 1SS133
D8119	360K1037	DIODE 1SS83
D812	36CB0213	DIODE DAN212K-T146
D8120	360K1037	DIODE 1SS83
D8121	360K1037	DIODE 1SS83
D813	36CB0213	DIODE DAN212K-T146
D814	36CB0213	DIODE DAN212K-T146
D815	36CB0213	DIODE DAN212K-T146
D816	36CB0213	DIODE DAN212K-T146
D817	36CB0213	DIODE DAN212K-T146
D818	36CB0213	DIODE DAN212K-T146
D819	36CB0213	DIODE DAN212K-T146
D820	36CB0213	DIODE DAN212K-T146
D821	36CB0213	DIODE DAN212K-T146
D822	36CB0213	DIODE DAN212K-T146
D823	36CB0213	DIODE DAN212K-T146
D824	36CB0213	DIODE DAN212K-T146
D825	36CB0213	DIODE DAN212K-T146
D826	36CB0213	DIODE DAN212K-T146
D827	36CB0213	DIODE DAN212K-T146
D828	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D829	36CB0213	DIODE DAN212K-T146
D830	36CB0213	DIODE DAN212K-T146
D831	36CB0213	DIODE DAN212K-T146
D832	36CB0213	DIODE DAN212K-T146
D833	36CB0213	DIODE DAN212K-T146
D834	36CB0213	DIODE DAN212K-T146
D835	36CB0213	DIODE DAN212K-T146
D836	36CB0213	DIODE DAN212K-T146
D837	36CB0213	DIODE DAN212K-T146
D838	36CB0213	DIODE DAN212K-T146
D839	36CB0213	DIODE DAN212K-T146
D840	36CB0213	DIODE DAN212K-T146
D841	36CB0213	DIODE DAN212K-T146
D842	36CB0213	DIODE DAN212K-T146
D843	36CB0213	DIODE DAN212K-T146
D844	36CB0213	DIODE DAN212K-T146
ZD1011	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1012	36BB0101	DIODE RD5.6MB2-T2B(180°)
ZD1013	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1015	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1017	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1018	36BB0061	DIODE RD12MB-T2B
ZD1019	36BB0061	DIODE RD12MB-T2B
ZD1020	36BB0061	DIODE RD12MB-T2B
ZD1021	36BB0061	DIODE RD12MB-T2B
ZD1022	36BB0061	DIODE RD12MB-T2B
ZD1023	36BB0061	DIODE RD12MB-T2B
ZD1024	36BB0061	DIODE RD12MB-T2B
ZD1025	36BB0061	DIODE RD12MB-T2B
ZD1036	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1040	36BB0085	DIODE RD3.3MB2-T2B(180°)
ZD1041	36BB0086	DIODE RD3.6MB-T2B(180°)
ZD1242	36BB0097	DIODE RD5.1MB2-T2B(180°)
ZD1301	36BB0122	DIODE RD10MB2-T2B(180°)
ZD1401	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD1404	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD1405	36BB0061	DIODE RD12MB-T2B
ZD1406	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD2001	360K3671	DIODE RD12ES AB2-T4
ZD2002	360K3634	DIODE RD5.1ESB(1)-T4

SYMBOL	PARTS NO	DESCRIPTION
ZD804	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD805	36BB0097	DIODE RD5.1MB2-T2B(180°)
ZD806	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD807	36BB0099	DIODE RD5.6MB-T2B(180°)

\*\*\* TRANSFORMERS \*\*\*

L5002	46207001	COIL, CHOKE 2MH
L5006	46316606	COIL, CHOKE
T5002	47105429	F. B. T (MSU1FHN49)
T5003	46316604	TRANS. DYNAMIC FOCUS
T5501	47710022	TRANS. H. OUT
T5502	45805001	TRANS. H. DRIVE

\*\*\* VARIABLE RESISTORS \*\*\*

VR1001	41505205	R. VARIABLE B5.0K
VR1201	41071222	R. VARIABLE B330K
VR1301	41071213	R. VARIABLE B10K
VR1401	41071011	R. VARIABLE 64.7K
VR2001	41505210	R. VARIABLE B200K
VR2002	41505107	R. VARIABLE B5K
VR7201	410G1210	R. VARIABLE B3.3K
VR7202	410G1210	R. VARIABLE B3.3K
VR7401	410G1205	R. VARIABLE B470
VR8001	410G1222	R. VARIABLE B330K

\*\*\* RELAYS & SWITCHES \*\*\*

RL5501	65602521	RELAY G6C-1114P
RL5502	65602521	RELAY G6C-1114P
RL5503	65602521	RELAY G6C-1114P
RL5504	65602521	RELAY G6C-1114P
RL5505	65602157	RELAY
RL8101	65602571	RELAY G6E-134P-US DC12V
RL8102	65602571	RELAY G6E-134P-US DC12V
RL8103	65602571	RELAY G6E-134P-US DC12V
SW1001	653F1038	PUSH SWITCH
S101	65313308	PUSH SWITCH BUTTON
S102	65361049	SW. TACT
S103	65361049	SW. TACT
S104	65361049	SW. TACT
S105	65361049	SW. TACT
S106	65361049	SW. TACT

SYMBOL	PARTS NO	DESCRIPTION
ZD2003	360K3634	DIODE RD5.1ESB(1)-T4
ZD5002	360K3643	DIODE RD6.2ES AB2-T4
ZD5003	360K3654	DIODE RD8.2ES AB1-T4
ZD5004	360K3623	DIODE RD3.9ESB(1)-T4
ZD5007	360K3662	DIODE RD10ESB(1)-T4
ZD5008	360K3658	DIODE RD9.1ESB(1)-T4
ZD5009	360K3658	DIODE RD9.1ESB(1)-T4
ZD5010	360K3634	DIODE RD5.1ESB(1)-T4
ZD5501	360K3671	DIODE RD12ES AB2-T4
ZD5502	360K3688	DIODE RD18ES AB3-T4
ZD5503	360K3635	DIODE RD5.1ESB(2)-T4
ZD7201	36BB0098	DIODE RD5.1MB3-T2B(180°)
ZD7202	36BB0088	DIODE RD3.6MB2-T2B(180°)
ZD7501	36BB0098	DIODE RD5.1MB3-T2B(180°)
ZD7502	36BB0071	DIODE RD15MB2-T2(180°)
ZD7503	36BB0071	DIODE RD15MB2-T2(180°)
ZD7504	36BB0071	DIODE RD15MB2-T2(180°)
ZD7505	36BB0071	DIODE RD15MB2-T2(180°)
ZD7506	36BB0071	DIODE RD15MB2-T2(180°)
ZD7507	36BB0071	DIODE RD15MB2-T2(180°)
ZD7508	36BB0071	DIODE RD15MB2-T2(180°)
ZD7509	36BB0071	DIODE RD15MB2-T2(180°)
ZD7510	36BB0071	DIODE RD15MB2-T2(180°)
ZD7511	36BB0071	DIODE RD15MB2-T2(180°)
ZD7512	36BB0071	DIODE RD15MB2-T2(180°)
ZD7513	36BB0071	DIODE RD15MB2-T2(180°)
ZD7514	36BB0071	DIODE RD15MB2-T2(180°)
ZD7515	36BB0071	DIODE RD15MB2-T2(180°)
ZD7516	36BB0071	DIODE RD15MB2-T2(180°)
ZD7517	36BB0071	DIODE RD15MB2-T2(180°)
ZD8002	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD8003	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD8004	36BB0097	DIODE RD5.1MB2-T2B(180°)
ZD8005	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD8006	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD8007	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD8008	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD801	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD802	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD803	36BB0099	DIODE RD5.6MB-T2B(180°)

SYMBOL	PARTS NO	DESCRIPTION
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S107	65361049	SW. TACT
S1401	65113508	SWITCH, SLIDE
S701	65113270	SWITCH, SLIDE
S702	65113270	SWITCH, SLIDE
S703	65113270	SWITCH, SLIDE
S7501	65121105	SWITCH, SLIDE
S801	65113270	SWITCH, SLIDE
S802	65113270	SWITCH, SLIDE
S803	65113270	SWITCH, SLIDE
S804	65113508	SWITCH, SLIDE

\*\*\* COILS & FILTERS \*\*\*

CF7201	39603402	FOCUS CONTROL VOLUME
DL7201	611A1008	CERAMIC TRAP
DL7202	61511048	DELAY LINE 0.3US
DL7203	61EA1638	DELAY LINE 0.1US
	61EA1639	DELAY LINE 0.25US
FB5001	61605005	FERRITE BEADS 5*10*1.8
FB5002	61605005	FERRITE BEADS 5*10*1.8
FB5501	61605008	FERRITE BEADS 3.5*5*1.3
FB5502	61605008	FERRITE BEADS 3.5*5*1.3
FB5503	61605008	FERRITE BEADS 3.5*5*1.3
FL7401	39KB6276	L. P. F 8MHZ TH355LSJ-5728
FL7402	39KB6276	L. P. F 8MHZ TH355LSJ-5728
FL7403	39KB6276	L. P. F 8MHZ TH355LSJ-5728
FL801	616K6814	NOISE FILTER
FL802	616K6814	NOISE FILTER
FL803	616K6814	NOISE FILTER
FL804	616K6814	NOISE FILTER
FL805	616K6823	NOISE FILTER
FL806	616K6814	NOISE FILTER
FL807	616K6823	NOISE FILTER
FL808	616K6814	NOISE FILTER
FL809	616K6814	NOISE FILTER
FL8100	61605007	FERRITE BEADS 2.5*1.2*0.7
FL8101	61605007	FERRITE BEADS 2.5*1.2*0.7
FL8102	61605007	FERRITE BEADS 2.5*1.2*0.7
L1001	610F7514	COIL, FILTER 5.6UH
L1002	610F7514	COIL, FILTER 5.6UH

SYMBOL	PARTS NO	DESCRIPTION
L101	610E1743	COIL,FILTER 1500UH
L1010	610F7514	COIL,FILTER 5.8UH
L1020	610F7529	COIL,FILTER 100UH
L5001	610G0233	FILTER CHOKE PJ8T-470K
L5003	61099118	FILTER COIL
L5004	61099140	COIL,FILTER 100L P110
L5005	61099140	COIL,FILTER 100L P110
L5501	60917073	COIL,H.LIN
L5502	60917073	COIL,H.LIN
L5503	61099126	COIL,FILTER 330UH
L5504	61099141	COIL,CHOKE
L5505	61099118	FILTER COIL
L7201	610E1710	COIL,FILTER 2.7UH
L7202	610E1727	COIL,FILTER 68UH
L7203	610E1728	COIL,FILTER 82UH
L7204	610E1720	COIL,FILTER 18UH
L7205	610E1725	COIL,FILTER 47UH
L7206	610E1725	COIL,FILTER 47UH
L7207	610E1725	COIL,FILTER 47UH
L7208	610E1725	COIL,FILTER 47UH
L7209	610E1725	COIL,FILTER 47UH
L7210	610E1723	COIL,FILTER 33UH
L7211	610E1724	COIL,FILTER 39UH
L7212	610E1725	COIL,FILTER 47UH
L7213	610E1725	COIL,FILTER 47UH
L7401	610E1731	COIL,FILTER 150UH
L7402	610E1733	COIL,FILTER 220UH
L7403	610E1733	COIL,FILTER 220UH
L7404	610E1733	COIL,FILTER 220UH
L8001	610E1705	COIL,FILTER 1.0UH
L8101	610E1705	COIL,FILTER 1.0UH
L8103	610E1746	COIL,FILTER 0.22UH
L8104	610E1705	COIL,FILTER 1.0UH
L8106	610E1746	COIL,FILTER 0.22UH
L8107	610E1705	COIL,FILTER 1.0UH
L8109	610E1746	COIL,FILTER 0.22UH
L901	610E1750	COIL,FILTER 0.47UH
L902	610E1750	COIL,FILTER 0.47UH
L903	610E1750	COIL,FILTER 0.47UH

SYMBOL	PARTS NO	DESCRIPTION
T5503	60917089	COIL,LIN
T5504	60917089	COIL,LIN
T5505	60917089	COIL,LIN
T5506	60917089	COIL,LIN
W1 DEG	61329102	COIL,DEGAUSSING
X1003	61111015	CERAMIC OSC CSB500F2
X7203	61111805	CERAMIC OSC CSB503F30
X7401	61111015	CERAMIC OSC CSB500F2

\*\*\* PWB ASSYS \*\*\*

	933D4DA2	DEF PWB ASSY
	933D4DB2	SW-LED PWB ASSY
	933D4G02	V-CRT PWB ASSY
	933D4TA2	VIDEO I/O PWB ASSY
	933D4TB2	RGB OUT PWB ASSY
	933D4F02	CPU/OSC PWB ASSY
	933D4H02	HV PWB ASSY

\*\*\* ELECTRICAL PARTS & MISCELLANEOUS PARTS \*\*\*

	31710044	FAN MOTOR
	31710045	FAN MOTOR
	63010112	SPEAKER 90*55 16H 5W ALN
	68043001	BATTERY, DRY CELL SUM-3
	70810759	LINE CORD UC3S L3.0
	79644641	RD-346E
	79644841	POWER UNIT
	48007486	DEFLECTION YOKE
D.Y	39030098	R,NETWORK 4*4.7K 5% 1/8W
FR5501	39030098	R,NETWORK 4*4.7K 5% 1/8W
FR5502		
IC2001	79644661	HV CONTROL UNIT
M701	71123500	BOARD,BNC
M703	70057312	SOCKET,DIN 4P TCS7949
M704	70057008	DIN SOCKET 4P
M705	71123500	BOARD,BNC
M707	70057312	SOCKET,DIN 4P TCS7949
M708	70057008	DIN SOCKET 4P
M709	70051827	JACK,PIN 4P JPJ0918
M710	70051827	JACK,PIN 4P JPJ0918
M711	70051827	JACK,PIN 4P JPJ0918
M721	71199046	PUSH TERMINAL (4P)
M7501	70056200	D-SUB SOCKET (15PIN)
M7502	70056200	D-SUB SOCKET (15PIN)

SYMBOL	PARTS NO	DESCRIPTION
M7503	70505027	HEADPHONE JACK
M7504	70505027	HEADPHONE JACK
M801	70056200	D-SUB SOCKET (15PIN)
M802	70056475	CONNECTOR,D-SUB
M803	71123501	BOARD,BNC
SG/CRT	70032272	SG/CRT SOCKET
SG5001	66706003	SPARK GAP 2.0KV
SG901	66706001	SPARK GAP 1.2KV
SG902	66706001	SPARK GAP 1.2KV
SG903	66706001	SPARK GAP 1.2KV
SG904	66706001	SPARK GAP 1.2KV
SG905	66706001	SPARK GAP 1.2KV
SK1004	70102924	SOCKET,IC 64P
SK1006	70102141	SOCKET,IC 8P
SK1010	70102924	SOCKET,IC 64P
X1001	64098039	X'TAL(10.000MHZ)
X1002	64092118	X'TAL OSC 9.8304MHZ
X7201	64003027	X'TAL 4.43MHZ (NDK)
X7202	64003022	X'TAL OSC 3.58MHZ
X7402	64099203	X'TAL OSC 14.318MHZ
X7403	64099202	X'TAL OSC 17.73MHZ (KDS)

\*\*\* APPEARANCE PARTS \*\*\*

	70301534	RUBBER WEDGE
	70301536	FERRITE SHEET
	70301537	FERRITE SHEET(60MM)
	24B15751	LED SPACER(H95)
	24C00111	CLAMPER,WIRE (D15)
	24DT6161	FRONT CABINET ASSY
	24DT6171	BACK COVER ASSY
	24D08453	CABINET
	24D10121	FRONT PANEL
	24D10131	BACK COVER
	24F25001	ADHESIVE PIECE A
	24F25011	ADHESIVE PIECE B
	24F25021	ADHESIVE PIECE C
	24F27761	INDICATOR(POW)
	24F27801	HANDLE
	24F27931	CHASSIS BASE
	24GT1381	BUTTON(POW)ASSY
	24G04461	BUTTON(CTL)
	24G04471	BUTTON(POW)

SYMBOL	PARTS NO	DESCRIPTION
	24H25771	SIDE FRAME(R)
	24H25781	SIDE FRAME(L)
	24H25791	BACK FRAME
	24J06871	RUBBER FOOT A
	24J07371	CUSHION SHEET(17*140*0.5)
	24J07382	CUSHION SHEET(90*22*0.35)
	24J07442	SHEET (FRONT)
	24J12321	CUSHION(30*27*117)
	24K23081	INLAY(TERMINAL)
	24K23091	INLAY(SENSOR)
	24L36731	SPEC PLATE(G012)

\*\*\* PRINTED & PACKING MATERIALS \*\*\*

	24806961	BAG,POLYETHYLENE(270*370)
	24813191	BAG,POLYETHYLENE(150*370)
	24MU1071	SPACER(T)
	24MU1081	SPACER(B)
	24MU1311	CARTON BOX(G012)
	24M09081	BAG,PROTECTION
	78408132	USER'S MANUAL

\*\*\* RESISTORS \*\*\*

R1150	401G6109	R,CARBON 2.2H 5% 1/4W
R1170	40178135	R,CARBON 27H 5%
R1171	40178135	R,CARBON 27H 5%
R1172	40178135	R,CARBON 27H 5%
R1188	40372137	R,METAL 33H 5% 2W
R1210	401H5661	R,CARBON 330H 5% 1/2W
R1211	401G6109	R,CARBON 2.2H 5% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R1234	401G6109	R,CARBON 2.2H 5% 1/4W
R1239	40178133	R,CARBON 22H 5% 1/2W
R1295	40373143	R,METAL 56H 5% 3W
R1308	40373107	R,METAL 1.8H 5% 3W
R1309	401G6141	R,CARBON 47H 5% 1/4W
R1426	40372169	R,METAL 680H 5% 2W
R1427	40371101	R,METAL 1.0H 5% 1W
R1428	404C1717	R,METAL 68K 1% 1/6W
R1429	401H5721	R,CARBON 100K 5% 1/2W
R1430	40372157	R,METAL 220H 5% 2W
R2001	404C1742	R,METAL 750K 1% 1/6W
R2002	404C1725	R,METAL 150K 1% 1/6W
R2004	401K5683	R,CARBON 2.7K 5% 1/6W
R2005	401K5697	R,CARBON 10K 5% 1/6W
R2006	404C1696	R,METAL 9.1K 1% 1/6W
R2007	404C1697	R,METAL 10K 1% 1/6W
R2008	404C1721	R,METAL 100K 1% 1/6W
R2009	401K5709	R,CARBON 33K 5% 1/6W
R2010	404C1711	R,METAL 39K 1% 1/6W
R2011	404C1677	R,METAL 1.5K 1% 1/6W
R2012	404C1697	R,METAL 10K 1% 1/6W
R2013	401K5721	R,CARBON 100K 5% 1/6W
R2014	401K5697	R,CARBON 10K 5% 1/6W
R5001	401C6695	R,CARBON 8.2K 5% 1/4W
R5002	401K5693	R,CARBON 6.8K 5% 1/6W
R5003	401G6125	R,CARBON 10H 5% 1/4W
R5004	401C6685	R,CARBON 3.3K 5% 1/4W
R5005	401K5649	R,CARBON 100H 5% 1/6W
R5006	401K5633	R,CARBON 22H 5% 1/6W
R5007	401K5633	R,CARBON 22H 5% 1/6W
R5008	401K5633	R,CARBON 22H 5% 1/6W
R5009	401K5633	R,CARBON 22H 5% 1/6W
R5010	401K5633	R,CARBON 22H 5% 1/6W
R5011	401K5633	R,CARBON 22H 5% 1/6W
R5012	401K5633	R,CARBON 22H 5% 1/6W
R5013	40371103	R,METAL 1.2H 5% 1W
R5014	404KB718	R,METAL 75K 1% 1/4W
R5015	401K5609	R,CARBON 2.2H 5% 1/6W
R5016	404KB718	R,METAL 75K 1% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R5069	401H5721	R,CARBON 100K 5% 1/2W
R5070	40372185	R,METAL 3.3K 5% 2W
R5071	40371141	R,METAL 47H 5% 1W
R5072	40371141	R,METAL 47H 5% 1W
R5073	404CA657	R,METAL 220H 1% 1/6W
R5074	401C6693	R,CARBON 6.8K 5% 1/4W
R5075	40372213	R,METAL 47K 5% 2W
R5076	401K5729	R,CARBON 220K 5% 1/6W
R5077	404C1671	R,METAL 820H 1% 1/6W
R5078	404K2713	R,METAL 47K 1% 1/4W
R5079	404K2713	R,METAL 47K 1% 1/4W
R5080	401G6173	R,CARBON 1.0K 5% 1/4W
R5081	404C1721	R,METAL 100K 1% 1/6W
R5082	404C1697	R,METAL 10K 1% 1/6W
R5083	400B3677	R,SOLID 1.5K 5% 1/2W
R5084	401K5697	R,CARBON 10K 5% 1/6W
R5086	401G6149	R,CARBON 100H 5% 1/4W
R5089	401K5697	R,CARBON 10K 5% 1/6W
R5090	40371211	R,METAL 39K 5% 1W
R5092	401K5673	R,CARBON 1.0K 5% 1/6W
R5093	40371161	R,METAL 330H 5% 1W
R5096	401K5641	R,CARBON 47H 5% 1/6W
R5098	401C6633	R,CARBON 22H 5% 1/4W
R5099	401C6633	R,CARBON 22H 5% 1/4W
R5100	404C1721	R,METAL 100K 1% 1/6W
R5101	40224267	R,WIRE 560H 5% 7W
R5102	40224267	R,WIRE 560H 5% 7W
R5103	40224239	R,WIRE 39H 5% 7W
R5105	40224245	R,WIRE 68H 5% 7W
R5106	40224239	R,WIRE 39H 5% 7W
R5107	40224239	R,WIRE 39H 5% 7W
R5108	40224239	R,WIRE 39H 5% 7W
R5109	401K5689	R,CARBON 4.7K 5% 1/6W
R5110	40371189	R,METAL 4.7K 5% 1W
R5111	40373203	R,METAL 18K 5% 3W
R5112	40373197	R,METAL 10K 5% 3W
R5113	404C1729	R,METAL 220K 1% 1/6W
R5114	404C1703	R,METAL 18K 1% 1/6W
R5115	404C1679	R,METAL 1.8K 1% 1/6W
R5116	404C1719	R,METAL 82K 1% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R5017	401C6641	R,CARBON 47H 5% 1/4W
R5018	404C1697	R,METAL 10K 1% 1/6W
R5019	401K5673	R,CARBON 1.0K 5% 1/6W
R5020	401K5673	R,CARBON 1.0K 5% 1/6W
R5021	401K5709	R,CARBON 33K 5% 1/6W
R5022	401K5721	R,CARBON 100K 5% 1/6W
R5023	401K5721	R,CARBON 100K 5% 1/6W
R5024	401K5709	R,CARBON 33K 5% 1/6W
R5025	401K5721	R,CARBON 100K 5% 1/6W
R5026	401K5721	R,CARBON 100K 5% 1/6W
R5027	401K5709	R,CARBON 33K 5% 1/6W
R5028	401K5715	R,CARBON 56K 5% 1/6W
R5029	401K5633	R,CARBON 22H 5% 1/6W
R5030	401K5697	R,CARBON 10K 5% 1/6W
R5031	401C6633	R,CARBON 22H 5% 1/4W
R5034	401K5697	R,CARBON 10K 5% 1/6W
R5035	401K5701	R,CARBON 15K 5% 1/6W
R5036	401K5697	R,CARBON 10K 5% 1/6W
R5038	401K5699	R,CARBON 12K 5% 1/6W
R5039	401K5673	R,CARBON 1.0K 5% 1/6W
R5040	401K5673	R,CARBON 1.0K 5% 1/6W
R5041	401K5709	R,CARBON 33K 5% 1/6W
R5042	40371337	R,METAL 0.47H 5% 1W
R5043	401K5685	R,CARBON 3.3K 5% 1/6W
R5044	401H5725	R,CARBON 150K 5% 1/2W
R5045	401C6633	R,CARBON 22H 5% 1/4W
R5046	40372333	R,METAL 0.33H 5% 2W
R5047	40372333	R,METAL 0.33H 5% 2W
R5051	401K5701	R,CARBON 15K 5% 1/6W
R5055	401G6101	R,CARBON 1.0H 5% 1/4W
R5057	401K5697	R,CARBON 10K 5% 1/6W
R5058	401K5697	R,CARBON 10K 5% 1/6W
R5059	401K5697	R,CARBON 10K 5% 1/6W
R5060	401K5673	R,CARBON 1.0K 5% 1/6W
R5061	404C1693	R,METAL 6.8K 1% 1/6W
R5062	40373151	R,METAL 120H 5% 3W
R5063	40373151	R,METAL 120H 5% 3W
R5064	404K2721	R,METAL 100K 5% 1/4W
R5065	401G6133	R,CARBON 22H 5% 1/4W
R5068	401K5697	R,CARBON 10K 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R5117	401K5697	R,CARBON 10K 5% 1/6W
R5118	401K5697	R,CARBON 10K 5% 1/6W
R5119	401K5697	R,CARBON 10K 5% 1/6W
R5120	401K5697	R,CARBON 10K 5% 1/6W
R5121	404C1697	R,METAL 10K 1% 1/6W
R5122	404C1687	R,METAL 3.9K 1% 1/6W
R5123	404C1669	R,METAL 680H 1% 1/6W
R5124	401K5665	R,CARBON 470H 5% 1/6W
R5125	40372213	R,METAL 47K 5% 2W
R5126	404C1655	R,METAL 180H 1% 1/6W
R5128	40372185	R,METAL 3.3K 5% 2W
R5129	401K5643	R,CARBON 56H 5% 1/6W
R5130	40175149	R,CARBON 100H 5% 1/4W
R5131	401K5665	R,CARBON 470H 5% 1/6W
R5132	401K5641	R,CARBON 47H 5% 1/6W
R5502	404C1697	R,METAL 10K 1% 1/6W
R5503	404C1691	R,METAL 5.6K 1% 1/6W
R5506	404C1697	R,METAL 10K 1% 1/6W
R5507	401K5713	R,CARBON 47K 5% 1/6W
R5508	401K5691	R,CARBON 5.6K 5% 1/6W
R5509	401C6733	R,CARBON 330K 5% 1/4W
R5510	401K5689	R,CARBON 4.7K 5% 1/6W
R5511	401K5699	R,CARBON 12K 5% 1/6W
R5512	401K5673	R,CARBON 1.0K 5% 1/6W
R5513	401H5677	R,CARBON 1.5K 5% 1/2W
R5514	40373199	R,METAL 12K 5% 3W
R5515	401K5673	R,CARBON 1.0K 5% 1/6W
R5516	401K5681	R,CARBON 2.2K 5% 1/6W
R5517	401K5693	R,CARBON 6.8K 5% 1/6W
R5518	401K5693	R,CARBON 6.8K 5% 1/6W
R5519	40371197	R,METAL 10K 5% 1W
R5520	401K5735	R,CARBON 390K 5% 1/6W
R5521	40373155	R,METAL 180H 5% 3W
R5522	40373155	R,METAL 180H 5% 3W
R5523	40373155	R,METAL 180H 5% 3W
R5524	40373181	R,METAL 2.2K 5% 3W
R5525	40373181	R,METAL 2.2K 5% 3W
R5526	401G6109	R,CARBON 2.2H 5% 1/4W
R5527	40373111	R,METAL 2.7H 5% 3W
R5528	40373111	R,METAL 2.7H 5% 3W

SYMBOL	PARTS NO	DESCRIPTION
R5529	40373111	R, METAL 2.7H 5% 3W
R5530	401K5633	R, CARBON 22H 5% 1/6W
R5531	401G6109	R, CARBON 2.2H 5% 1/4W
R5532	401G6109	R, CARBON 2.2H 5% 1/4W
R5533	401H5681	R, CARBON 2.2K 5% 1/2W
R5534	40372137	R, METAL 33H 5% 2W
R5536	401K5713	R, CARBON 47K 5% 1/6W
R5537	401K5713	R, CARBON 47K 5% 1/6W
R5538	401K5697	R, CARBON 10K 5% 1/6W
R5539	401K5705	R, CARBON 22K 5% 1/6W
R5540	401K5697	R, CARBON 10K 5% 1/6W
R5541	401K5697	R, CARBON 10K 5% 1/6W
R5542	401K5705	R, CARBON 22K 5% 1/6W
R5543	401K5701	R, CARBON 15K 5% 1/6W
R5544	401K5701	R, CARBON 15K 5% 1/6W
R5545	401K5701	R, CARBON 15K 5% 1/6W
R5546	401K5701	R, CARBON 15K 5% 1/6W
R5547	401K5701	R, CARBON 15K 5% 1/6W
R5548	401K5697	R, CARBON 10K 5% 1/6W
R5549	401K5701	R, CARBON 15K 5% 1/6W
R5550	401K5701	R, CARBON 15K 5% 1/6W
R5553	401K5655	R, CARBON 180H 5% 1/6W
R5554	401K5655	R, CARBON 180H 5% 1/6W
R5556	40372173	R, METAL 1.0K 5% 2W
R5557	40372159	R, METAL 270H 5% 2W
R5558	40372159	R, METAL 270H 5% 2W
R5559	40371141	R, METAL 47H 5% 1W
R5560	40371141	R, METAL 47H 5% 1W
R5561	40371141	R, METAL 47H 5% 1W
R5562	40371141	R, METAL 47H 5% 1W
R5569	404C1734	R, METAL 360K 1% 1/6W
R5570	404C1721	R, METAL 100K 1% 1/6W
R5571	404C1726	R, METAL 160K 1% 1/6W
R5574	401K5693	R, CARBON 6.8K 5% 1/6W
R5575	404C1732	R, METAL 300K 1% 1/6W
R5577	404C1713	R, METAL 47K 1% 1/6W
R5578	404C1743	R, METAL 820K 1% 1/6W
R5580	401K5693	R, CARBON 6.8K 5% 1/6W
R5581B	401KE649	R, CARBON 100H 5% 1/6W
R5582	401K5649	R, CARBON 100H 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R8005	40372135	R, METAL 27H 5% 2W
R8035	40371163	R, METAL 390H 5% 1W
R805	40178159	R, CARBON 270H 5% 1/2W
R806	40405109	R, METAL 2.2H 5% 1/4W
R8103	40371139	R, METAL 39H 5% 1W
R8111	401H5661	R, CARBON 330H 5% 1/2W
R8112	40224189	R, WIRE 4.7K 5% 5W
R8113	40224191	R, WIRE 5.6K 5% 5W
R8114	40224192	R, WIRE 6.2K 5% 5W
R8115	40224285	R, WIRE 3.3K 5% 7W
R8116	40224285	R, WIRE 3.3K 5% 7W
R8117	40224285	R, WIRE 3.3K 5% 7W
R8122	40371139	R, METAL 39H 5% 1W
R8130	401H5661	R, CARBON 330H 5% 1/2W
R8131	40224189	R, WIRE 4.7K 5% 5W
R8132	40224191	R, WIRE 5.6K 5% 5W
R8133	40224192	R, WIRE 6.2K 5% 5W
R8134	40224285	R, WIRE 3.3K 5% 7W
R8135	40224285	R, WIRE 3.3K 5% 7W
R8136	40224285	R, WIRE 3.3K 5% 7W
R8141	40371139	R, METAL 39H 5% 1W
R8149	401H5661	R, CARBON 330H 5% 1/2W
R8150	40224189	R, WIRE 4.7K 5% 5W
R8151	40224191	R, WIRE 5.6K 5% 5W
R8152	40224192	R, WIRE 6.2K 5% 5W
R8153	40224285	R, WIRE 3.3K 5% 7W
R8154	40224285	R, WIRE 3.3K 5% 7W
R8155	40224285	R, WIRE 3.3K 5% 7W
R863	40405125	R, METAL 10H 5% 1/4W
R865	40405109	R, METAL 2.2H 5% 1/4W
R901	401H5649	R, CARBON 100H 5% 1/2W
R902	401H5673	R, CARBON 1.0K 5% 1/2W
R903	401H5649	R, CARBON 100H 5% 1/2W
R904	401H5673	R, CARBON 1.0K 5% 1/2W
R905	401H5649	R, CARBON 100H 5% 1/2W
R906	401H5673	R, CARBON 1.0K 5% 1/2W
R907	401H5673	R, CARBON 1.0K 5% 1/2W
R908	401H5721	R, CARBON 100K 5% 1/2W

SYMBOL	PARTS NO	DESCRIPTION
R5583	401K5649	R, CARBON 100H 5% 1/6W
R5584	401K5649	R, CARBON 100H 5% 1/6W
R5585	401K5649	R, CARBON 100H 5% 1/6W
R5586	401K5649	R, CARBON 100H 5% 1/6W
R5587	401K5649	R, CARBON 100H 5% 1/6W
R5588	401K5683	R, CARBON 2.7K 5% 1/6W
R5589	401K5649	R, CARBON 100H 5% 1/6W
R5590	401G6137	R, CARBON 33H 5% 1/4W
R5591	401K5713	R, CARBON 47K 5% 1/6W
R5592	401K5713	R, CARBON 47K 5% 1/6W
R5593	401K5713	R, CARBON 47K 5% 1/6W
R5594	401K5713	R, CARBON 47K 5% 1/6W
R5596	401G6109	R, CARBON 2.2H 5% 1/4W
R5597	40371155	R, METAL 180H 5% 1W
R5598	401K5633	R, CARBON 22H 5% 1/6W
R5599	401K5633	R, CARBON 22H 5% 1/6W
R5600	401K5633	R, CARBON 22H 5% 1/6W
R5604	40372137	R, METAL 33H 5% 2W
R5605	40178173	R, CARBON 1.0K 5% 1/2W
R5607	401K5625	R, CARBON 10H 5% 1/6W
R5608	401K5625	R, CARBON 10H 5% 1/6W
R5609	401C6679	R, CARBON 1.8K 5% 1/4W
R5610	404C1707	R, METAL 27K 1% 1/6W
R5618	40373333	R, METAL 0.33H 5% 3W
R5640	401K5743	R, CARBON 820K 5% 1/6W
R5641	401K5743	R, CARBON 820K 5% 1/6W
R5642	401K5743	R, CARBON 820K 5% 1/6W
R5643	401K5743	R, CARBON 820K 5% 1/6W
R5644	401K5743	R, CARBON 820K 5% 1/6W
R5645	401K5743	R, CARBON 820K 5% 1/6W
R5646	401K5743	R, CARBON 820K 5% 1/6W
R7308B	401K5690	R, CARBON 5.1K 5% 1/6W
R7310	40371155	R, METAL 180H 5% 1W
R7340	40372143	R, METAL 56H 5% 2W
R7341	40372143	R, METAL 56H 5% 2W
R7342	40372131	R, METAL 18H 5% 2W
R7343	40372131	R, METAL 18H 5% 2W
R7506	40405109	R, METAL 2.2H 5% 1/4W
R769	40371117	R, METAL 4.7H 5% 1W
R8004	40372135	R, METAL 27H 5% 2W

SYMBOL	PARTS NO	DESCRIPTION
R1301	40AA2005	R, CHIP 2.2H 5% 1/4W
R1302	40AA2133	R, CHIP 22H 5% 1/4E
R8107	40AA2133	R, CHIP 22H 5% 1/4E
R8127	40AA2153	R, CHIP 150H 5% 1/4W
R8108	40AA2161	R, CHIP 330H 5% 1/4W
R8145	40AA2165	R, CHIP 470H 5% 1/4W
R8126	40AA2189	R, CHIP 4.7K 5% 1/4W
R8146	40AA2197	R, CHIP 10K 5% 1/4W
R8169	40AA3000	R, CHIP 0.0H 5% 1/10W
R8171		
R8173		
R8059		
R865		
R8061		
R886		
R8063		
R887		
R1127		
R1128		
R1261		
R763		
R764		
R1027		
R1030		
R1042		
R1086		
R1111		
R1420		
R7512		
R754		
R8170		
R1028		
R1940		
R1043		
R1087		
R1151		
R739		
R7513		
R8015		
R1029		
R1041		
R1085		
R1088		
R1264		
R745		
R753		
R8087		





SYMBOL	PARTS NO	DESCRIPTION
R8048	40AA3172	R,CHIP 910H 5% 1/10W
R8051	↓	↓
R8057	40AA3173	R,CHIP 1.0K 5% 1/10W
R1083	↓	↓
R1091	↓	↓
R1104	↓	↓
R1109	↓	↓
R1122	↓	↓
R1129	↓	↓
R1132	↓	↓
R1135	↓	↓
R1185	↓	↓
R1223	↓	↓
R1245	↓	↓
R7206	↓	↓
R7247	↓	↓
R7270	↓	↓
R7286	↓	↓
R7314	↓	↓
R7328	↓	↓
R737	↓	↓
R741	↓	↓
R743	↓	↓
R747	↓	↓
R7510	↓	↓
R1089	↓	↓
R1092	↓	↓
R1105	↓	↓
R1110	↓	↓
R1124	↓	↓
R1130	↓	↓
R1133	↓	↓
R1142	↓	↓
R1186	↓	↓
R1225	↓	↓
R7204	↓	↓
R7235	↓	↓
R7266	↓	↓
R7273	↓	↓
R7287	↓	↓
R7319	↓	↓
R7332	↓	↓
R7407	↓	↓
R7413	↓	↓
R7431	↓	↓
R748	↓	↓
R779	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1263	40AA3181	R,CHIP 2.2K 5% 1/10W
R7309	↓	↓
R1265	↓	↓
R8086	↓	↓
R1403	↓	↓
R8159	40AA3183	R,CHIP 2.7K 5% 1/10W
R1303	↓	↓
R1305	↓	↓
R7276	↓	↓
R1202	40AA3185	R,CHIP 3.3K 5% 1/10W
R7426	↓	↓
R7465	↓	↓
R7559	↓	↓
R8020	↓	↓
R851	↓	↓
R877	↓	↓
R880	↓	↓
R1208	↓	↓
R7451	↓	↓
R7470	↓	↓
R8018	↓	↓
R845	↓	↓
R872	↓	↓
R878	↓	↓
R1288	↓	↓
R7457	↓	↓
R7472	↓	↓
R8019	↓	↓
R848	↓	↓
R875	↓	↓
R879	↓	↓
R1230	40AA3187	R,CHIP 3.9K 5% 1/10W
R8069	↓	↓
R8096	↓	↓
R1304	↓	↓
R8072	↓	↓
R8066	↓	↓
R8084	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1090	↓	↓
R1103	↓	↓
R1106	↓	↓
R1117	↓	↓
R1125	↓	↓
R1131	↓	↓
R1134	↓	↓
R1184	↓	↓
R1219	↓	↓
R1238	↓	↓
R7205	↓	↓
R7236	↓	↓
R7267	↓	↓
R7285	↓	↓
R7288	↓	↓
R7324	↓	↓
R735	↓	↓
R7409	↓	↓
R7428	↓	↓
R746	↓	↓
R7509	↓	↓
R8021	40AA3173	R,CHIP 1.0K 5% 1/10W
R8039	↓	↓
R8082	↓	↓
R870	↓	↓
R8045	↓	↓
R8186	↓	↓
R8081	↓	↓
R867	↓	↓
R1215	40AA3175	R,CHIP 1.2K 5% 1/10W
R7429	40AA3177	R,CHIP 1.5K 5% 1/10W
R876	↓	↓
R7471	↓	↓
R873	↓	↓
R1173	40AA3179	R,CHIP 1.8K 5% 1/10W
R1249	↓	↓
R1174	↓	↓
R7335	↓	↓
R1175	↓	↓
R7338	↓	↓
R7241	40AA3180	R,CHIP 2.0K 5% 1/10W
R7290	↓	↓
R7293	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1267	40AA3189	R,CHIP 4.7K 5% 1/10W
R7289	↓	↓
R7316	↓	↓
R8038	↓	↓
R811	↓	↓
R840	↓	↓
R866	↓	↓
R1415	↓	↓
R7291	↓	↓
R8002	↓	↓
R808	↓	↓
R814	↓	↓
R843	↓	↓
R1433	↓	↓
R7307	↓	↓
R8024	↓	↓
R8083	↓	↓
R837	↓	↓
R864	↓	↓
R7238	40AA3190	R,CHIP 5.1K 5% 1/10W
R7308	↓	↓
R7246	↓	↓
R7280	↓	↓
R1177	40AA3191	R,CHIP 5.6K 5% 1/10W
R7337	↓	↓
R7455	↓	↓
R8070	↓	↓
R8178	↓	↓
R834	↓	↓
R7313	↓	↓
R7427	↓	↓
R7463	↓	↓
R8073	↓	↓
R8180	↓	↓
R7334	↓	↓
R7435	↓	↓
R8067	↓	↓
R8176	↓	↓
R820	↓	↓
R1203	40AA3193	R,CHIP 6.8K 5% 1/10W
R1407	↓	↓
R7410	↓	↓
R8079	40AA3193	R,CHIP 6.8K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1228 R7403 R8043 R7230 R7415 R7296 R8034 R1008 R1018 R1025 R1200 R1209 R1226 R1257 R1260 R1293 R1402 R1418 R7208 R7250 R7265 R7302 R7315 R7402 R7417 R7423 R8017 R807 R8095 R813 R8162 R8174 R842 R852 R869 R888 R1016 R1019 R1081 R1204 R1216 R1229 R1258 R1290 R1297	40AA3195  40AA3197	R,CHIP 8.2K 5% 1/10W  R,CHIP 10K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1189 R7430 R8012 R8093 R8179 R1416 R8010 R8091 R8175 R1419 R8011 R8092 R8177 R1180 R7408 R1227 R8003 R1405 R8006 R8056 R1247 R1140 R1179 R1271 R1274 R1277 R1281 R1285 R1307 R1435 R1145 R1262 R1272 R1275 R1279 R1282 R1286 R1310 R1436 R1147 R1270 R1273 R1276 R1280 R1284 R1287 R1412 R7511	40AA3199  40AA3201  40AA3201 40AA3203 40AA3205	R,CHIP 12K 5% 1/10W  R,CHIP 15K 5% 1/10W  R,CHIP 15K 5% 1/10W R,CHIP 18K 5% 1/10W R,CHIP 22K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1413 R1431 R7229 R7253 R7268 R7303 R7317 R7405 R7419 R7508 R8032 R8090 R8097 R8158 R8168 R836 R846 R862 R881 R889 R1017 R1024 R1183 R1206 R1224 R1256 R1259 R1291 R1401 R1417 R705 R7237 R7264 R7301 R7306 R7318 R7416 R7422 R778 R8033 R8094 R810 R8160 R8172 R839 R849 R858 R882 R890		

SYMBOL	PARTS NO	DESCRIPTION
R1437 R8040 R7279 R891 R8016 R1409 R8042 R1425 R8085 R8014 R1432 R1438 R8080 R1001 R1004 R1011 R1015 R1022 R1182 R1311 R1002 R1005 R1012 R1020 R1023 R1201 R8041 R1003 R1009 R1013 R1021 R1181 R1289 R892 R1153 R8068 R8129 R1154 R8071 R8148 R8065 R8110 R1251 R1253 R7507 R8054	40AA3207  40AA3209  40AA3211  40AA3213  40AA3215  40AA3219 40AA3221 40AA3225	R,CHIP 27K 5% 1/10W  R,CHIP 33K 5% 1/10W  R,CHIP 39K 5% 1/10W  R,CHIP 47K 5% 1/10W  R,CHIP 56K 5% 1/10W  R,CHIP 82K 5% 1/10W R,CHIP 100K 5% 1/10W R,CHIP 150K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R704	40AA3229	R,CHIP 220K 5% 1/10W
R719		
R730		
R733		
R762		
R816		
R819		
R826		
R835		
R706		
R720		
R731		
R7433		
R767		
R817		
R822		
R828		
R707		
R721		
R732		
R761		
R768		
R818		
R824		
R830		
R8109	40AA3233	R,CHIP 330K 5% 1/10W
R8128		
R8147		
R7283	40AA3243	R,CHIP 820K 5% 1/10W
R7432		
R7431	40AA3245	R,CHIP 1.0M 5% 1/10W
R7274	40AA3257	R,CHIP 3.3M 5% 1/10W
R7278	40AB2146	R,CHIP 75H 1% 1/4W
R7275		
R7277		
R801		
R821		
R827		
R802		
R823		
R829		
R803		
R825		

SYMBOL	PARTS NO	DESCRIPTION
R1408	40AB3199	R,CHIP 12K 1% 1/10W
R1235		
R1232	40AB3201	R,CHIP 15K 1% 1/10W
R7312		
R1241	40AB3205	R,CHIP 22K 1% 1/10W
R1242		
R1250		
R1252		
R7311	40AB3209	R,CHIP 33K 1% 1/10W
R1213		
R1155	40AB3211	R,CHIP 39K 1% 1/10W
	40AB3217	R,CHIP 68K 1% 1/10W
	40AB3220	R,CHIP 91K 1% 1/10W
	40AB3231	R,CHIP 270K 1% 1/10W

SYMBOL	PARTS NO	DESCRIPTION		
R701	40AB3146	R,CHIP 75H 1% 1/10W		
R716				
R702				
R717				
R703				
R718				
R7450			40AB3157	R,CHIP 220H 1% 1/10W
R7458				
R7240				
R7239			40AB3159	R,CHIP 270H 1% 1/10W
R7244				
R7243	40AB3165	R,CHIP 470H 1% 1/10W		
R7434	40AB3167	R,CHIP 560H 1% 1/10W		
R1212	40AB3170	R,CHIP 750H 1% 1/10W		
R8046				
R8050	40AB3172	R,CHIP 910H 1% 1/10W		
R8053	40AB3173	R,CHIP 1.0K 1% 1/10W		
R1246				
R7248				
R7251				
R7225				
R7439				
R7249	40AB3175	R,CHIP 1.2K 1% 1/10W		
R7446				
R7252				
R7226				
R7467	40AB3177	R,CHIP 1.5K 1% 1/10W		
R7448				
R7449	40AB3181	R,CHIP 2.2K 1% 1/10W		
R8023				
R7445				
R7447				
R1222	40AB3185	R,CHIP 3.3K 1% 1/10W		
R1233				
R7281	40AB3187	R,CHIP 3.9K 1% 1/10W		
R8199				
R8200	40AB3188	R,CHIP 4.3K 1% 1/10W		
R8201				
R7438	40AB3189	R,CHIP 4.7K 1% 1/10W		
R1152				
R1292	40AB3191	R,CHIP 5.6K 1% 1/10W		
R1237	40AB3193	R,CHIP 6.8K 1% 1/10W		
R1217	40AB3195	R,CHIP 8.2K 1% 1/10W		
R1218	40AB3197	R,CHIP 10K 1% 1/10W		
R1266				

SYMBOL	PARTS NO	DESCRIPTION
*** CAPACITORS ***		
C1003	42AA2726	C,CERAMIC 50V 0.01UF
C1004	42CA1416	C,CERAMIC 50V 10PF
C1005	42CA1416	C,CERAMIC 50V 10PF
C1007	42AA2726	C,CERAMIC 50V 0.01UF
C1008	430B9032	C,ELEC 16V 470UF
C1009	42AA2726	C,CERAMIC 50V 0.01UF
C101	430C0047	C,ELEC 16V 47UF
C1010	42AA2726	C,CERAMIC 50V 0.01UF
C1011	42AA2726	C,CERAMIC 50V 0.01UF
C1012	42AA2726	C,CERAMIC 50V 0.01UF
C1013	42AA2726	C,CERAMIC 50V 0.01UF
C1014	42CA1432	C,CERAMIC 50V 47PF
C1020	42CA1416	C,CERAMIC 50V 10PF
C1021	42CA1416	C,CERAMIC 50V 10PF
C1023	42AA2726	C,CERAMIC 50V 0.01UF
C1024	42AA2726	C,CERAMIC 50V 0.01UF
C1025	42AA2726	C,CERAMIC 50V 0.01UF
C1026	42AA2726	C,CERAMIC 50V 0.01UF
C1027	430B9025	C,ELEC 16V 10UF
C1028	430B9025	C,ELEC 16V 10UF
C1029	430B9025	C,ELEC 16V 10UF
C1030	430B9025	C,ELEC 16V 10UF
C1031	42AA2726	C,CERAMIC 50V 0.01UF
C1032	42AA2726	C,CERAMIC 50V 0.01UF
C1050	42AA2726	C,CERAMIC 50V 0.01UF
C1051	42AA2726	C,CERAMIC 50V 0.01UF
C1053	42CA1432	C,CERAMIC 50V 47PF
C1054	42CA1432	C,CERAMIC 50V 47PF
C1059	42CA1432	C,CERAMIC 50V 47PF
C1060	42CA1432	C,CERAMIC 50V 47PF
C1061	42CA1432	C,CERAMIC 50V 47PF
C1062	42CA1432	C,CERAMIC 50V 47PF
C1063	42CA1432	C,CERAMIC 50V 47PF
C1064	42CA1432	C,CERAMIC 50V 47PF
C1065	42CA1432	C,CERAMIC 50V 47PF
C1066	42CA1432	C,CERAMIC 50V 47PF
C1067	42CA1432	C,CERAMIC 50V 47PF
C1068	42CA1432	C,CERAMIC 50V 47PF

SYMBOL	PARTS NO	DESCRIPTION
C1071	42CA1432	C.CERAMIC 50V 47PF
C1072	42CA1432	C.CERAMIC 50V 47PF
C1073	42CA1432	C.CERAMIC 50V 47PF
C1074	42CA1432	C.CERAMIC 50V 47PF
C1075	42AA2726	C.CERAMIC 50V 0.01UF
C1076	42AA2726	C.CERAMIC 50V 0.01UF
C1077	42AA2726	C.CERAMIC 50V 0.01UF
C1078	42AA2726	C.CERAMIC 50V 0.01UF
C1079	42CA1432	C.CERAMIC 50V 47PF
C1080	42CA1432	C.CERAMIC 50V 47PF
C1081	42AA2726	C.CERAMIC 50V 0.01UF
C1082	42AA2726	C.CERAMIC 50V 0.01UF
C1083	42AA2726	C.CERAMIC 50V 0.01UF
C1086	42CA1432	C.CERAMIC 50V 47PF
C1087	42CA1432	C.CERAMIC 50V 47PF
C1088	42CA1432	C.CERAMIC 50V 47PF
C1089	42CA1432	C.CERAMIC 50V 47PF
C1090	42CA1432	C.CERAMIC 50V 47PF
C1091	42CA1432	C.CERAMIC 50V 47PF
C1092	42CA1432	C.CERAMIC 50V 47PF
C1093	42CA1432	C.CERAMIC 50V 47PF
C1094	42CA1432	C.CERAMIC 50V 47PF
C1095	42CA1432	C.CERAMIC 50V 47PF
C1097	430C0244	C.ELEC 16V 47UF
C1099	42AA2726	C.CERAMIC 50V 0.01UF
C1100	42CA1432	C.CERAMIC 50V 47PF
C1101	42CA1432	C.CERAMIC 50V 47PF
C1102	42CA1432	C.CERAMIC 50V 47PF
C1103	42CA1432	C.CERAMIC 50V 47PF
C1104	42CA1432	C.CERAMIC 50V 47PF
C1105	42CA1432	C.CERAMIC 50V 47PF
C1106	42CA1432	C.CERAMIC 50V 47PF
C1107	42CA1432	C.CERAMIC 50V 47PF
C1108	42CA1432	C.CERAMIC 50V 47PF
C1109	42CA1432	C.CERAMIC 50V 47PF
C1110	42CA1432	C.CERAMIC 50V 47PF
C1111	42CA1432	C.CERAMIC 50V 47PF
C1112	42CA1432	C.CERAMIC 50V 47PF
C1113	42CA1432	C.CERAMIC 50V 47PF

SYMBOL	PARTS NO	DESCRIPTION
C1191	427F4619	C.FILM 50V 0.033UF
C1192	428B3019	C.METAL FILM 50V 0.33UF
C1193	430B9039	C.ELEC 25V 22UF
C1194	42AA2726	C.CERAMIC 50V 0.01UF
C1195	430B9029	C.ELEC 16V 100UF
C1196	42CA1452	C.CHIP 50V 330PF
C1197	427F4601	C.FILM 50V 1000PF
C1199	428B3018	C.METAL FILM 50V 0.27UF
C1200	430B9041	C.ELEC 25V 47UF
C1201	427F4625	C.FILM 50V 0.1UF
C1203	42AA2721	C.CERAMIC 50V 0.1UF
C1204	42AA2721	C.CERAMIC 50V 0.1UF
C1205	42CA1464	C.CERAMIC 50V 1000PF
C1206	42AA2726	C.CERAMIC 50V 0.01UF
C1207	430B9042	C.ELEC 25V 100UF
C1208	42CA1456	C.CERAMIC 50V 420PF
C1209	430B9037	C.ELEC 25V 4.7UF
C1210	428B3021	C.METAL FILM 50V 0.47UF
C1211	428B3013	C.METAL FILM 50V 0.1UF
C1212	433A4059	C.ELEC 50V 10UF
C1213	428B3015	C.METAL FILM 50V 0.15UF
C1214	42AA2721	C.CERAMIC 50V 0.1UF
C1215	433A7045	C.ELEC 50V 4.7UF
C1218	430B9053	C.ELEC 35V 47UF
C1225	430B9032	C.ELEC 16V 470UF
C1230	42CA1438	C.CERAMIC 50V 820PF
C1301	430B9032	C.ELEC 16V 470UF
C1302	430B9032	C.ELEC 16V 470UF
C1303	427F4675	C.FILM 50V 0.1UF
C1304	430B9054	C.ELEC 35V 100UF
C1305	430B9053	C.ELEC 35V 47UF
C1306	427F4675	C.FILM 50V 0.1UF
C1307	433A7045	C.ELEC 50V 4.7UF
C1308	430B9053	C.ELEC 35V 47UF
C1309	433A7045	C.ELEC 50V 4.7UF
C1310	427F4609	C.FILM 50V 4700PF
C1311	427F4609	C.FILM 50V 4700PF
C1312	433A7045	C.ELEC 50V 4.7UF
C1313	433A7045	C.ELEC 50V 4.7UF
C1314	430B9037	C.ELEC 25V 4.7UF

SYMBOL	PARTS NO	DESCRIPTION
C1114	42CA1432	C.CERAMIC 50V 47PF
C1115	42CA1432	C.CERAMIC 50V 47PF
C1139	430B9029	C.ELEC 16V 100UF
C1140	430B9045	C.ELEC 25V 470UF
C1141	430B9045	C.ELEC 25V 470UF
C1142	430B9045	C.ELEC 25V 470UF
C1145	430B9057	C.ELEC 35V 470UF
C1146	42AA2726	C.CERAMIC 50V 0.01UF
C1147	430B9045	C.ELEC 25V 470UF
C1148	430B9057	C.ELEC 35V 470UF
C1149	42AA2726	C.CERAMIC 50V 0.01UF
C1150	42AA2726	C.CERAMIC 50V 0.01UF
C1151	430B9054	C.ELEC 35V 100UF
C1152	430B9045	C.ELEC 25V 470UF
C1153	42AA2726	C.CERAMIC 50V 0.01UF
C1154	430B9042	C.ELEC 25V 100UF
C1155	42AA2726	C.CERAMIC 50V 0.01UF
C1157	430B9032	C.ELEC 16V 470UF
C1158	42AA2726	C.CERAMIC 50V 0.01UF
C1159	430B9042	C.ELEC 25V 100UF
C1160	42AA2726	C.CERAMIC 50V 0.01UF
C1161	430B9029	C.ELEC 16V 100UF
C1162	42AA2726	C.CERAMIC 50V 0.01UF
C1163	42CA1432	C.CERAMIC 50V 47PF
C1164	42CA1432	C.CERAMIC 50V 47PF
C1165	42CA1432	C.CERAMIC 50V 47PF
C1166	42AA2726	C.CERAMIC 50V 0.01UF
C1167	430C0244	C.ELEC 16V 47UF
C1180	430B9062	C.ELEC 50V 2.2UF
C1181	430B9062	C.ELEC 50V 2.2UF
C1182	430B9062	C.ELEC 50V 2.2UF
C1183	42CA1464	C.CERAMIC 50V 1000PF
C1184	42CA1464	C.CERAMIC 50V 1000PF
C1185	430B9038	C.ELEC 25V 10UF
C1186	42AA2726	C.CERAMIC 50V 0.01UF
C1187	427F4611	C.FILM 50V 6800PF
C1188	430B9038	C.ELEC 25V 10UF
C1189	42AA2721	C.CERAMIC 50V 0.1UF
C1190	427F4611	C.FILM 50V 6800PF

SYMBOL	PARTS NO	DESCRIPTION
C1315	42AA2721	C.CERAMIC 50V 0.1UF
C1316	430B9025	C.ELEC 16V 10UF
C1317	43026181	C.ELEC 35V 4700UF
C1318	42AA2726	C.CERAMIC 50V 0.01UF
C1319	430CF540	C.ELEC 16C 2200UF
C1322	430C0244	C.ELEC 16V 47UF
C1402	430B9039	C.ELEC 25V 22UF
C1406	430B9536	C.ELEC 200V 10UF
C1407	42AA2726	C.CERAMIC 50V 0.01UF
C1408	430B9057	C.ELEC 35V 470UF
C1409	42AA2726	C.CERAMIC 50V 0.01UF
C1410	430B9057	C.ELEC 35V 470UF
C1412	4320E402	C.ELEC 200V 10UF
C1413	42703451	C.FILM 630V 1000PF
C1414	42703451	C.FILM 630V 1000PF
C2001	430B9038	C.ELEC 25V 10UF
C2003	430B9068	C.ELEC 50V 47UF
C2004	430B9039	C.ELEC 25V 22UF
C5001	4303J224	C.ELEC 250V 4.7UF
C5003	42839022	C.METAL FILM 250V 0.1UF
C5004	430B9041	C.ELEC 25V 47UF
C5005	430B9552	C.ELEC 250V 1.0UF
C5006	42703451	C.FILM 630V 1000PF
C5007	423A1076	C.CERAMIC 50V 390PF
C5009	4309J183	C.ELEC 250V 10UF
C5010	430B9062	C.ELEC 50V 2.2UF
C5013	430B9042	C.ELEC 25V 100UF
C5014	421A0425	C.CERAMIC 50V 0.01UF
C5015	430B9041	C.ELEC 25V 47UF
C5016	421A0425	C.CERAMIC 50V 0.01UF
C5017	421D6009	C.CERAMIC 25V 0.1UF
C5018	421D6009	C.CERAMIC 25V 0.1UF
C5019	421A0425	C.CERAMIC 50V 0.01UF
C5020	421D6009	C.CERAMIC 25V 0.1UF
C5022	430B9041	C.ELEC 25V 47UF
C5023	421A0425	C.CERAMIC 50V 0.01UF
C5024	421D6009	C.CERAMIC 25V 0.1UF
C5025	421A0425	C.CERAMIC 50V 0.01UF
C5026	423A2045	C.CERAMIC 50V 100PF
C5027	421D6009	C.CERAMIC 25V 0.1UF

SYMBOL	PARTS NO	DESCRIPTION
C5029	4320E403	C,ELEC 200V 100UF
C5030	42839022	C,METAL FILM 250V 0.1UF
C5031	430B9028	C,ELEC 16V 47UF
C5032	42807507	C,FILM 1.6KV 1800PF
C5033	42703458	C,FILM 630V 3900PF
C5036	421A0425	C,CERAMIC 50V 0.01UF
C5037	421A0425	C,CERAMIC 50V 0.01UF
C5038	433A7021	C,ELEC 25V 10UF
C5039	421A0425	C,CERAMIC 50V 0.01UF
C5040	430B9061	C,ELEC 50V 1.0UF
C5041	423A2045	C,CERAMIC 50V 100PF
C5042	423A2045	C,CERAMIC 50V 100PF
C5043	430B9041	C,ELEC 25V 47UF
C5044	421D6009	C,CERAMIC 25V 0.1UF
C5045	430BJ558	C,ELEC 250V 330UF
C5046	428D5093	C,METAL 250V 0.1UF
C5048	430BJ558	C,ELEC 250V 330UF
C5050	4303J214	C,ELEC 200V 4.7UF
C5051	42074713	C,CERAMIC 2.0KV 1000PF
C5052	42074713	C,CERAMIC 2.0KV 1000PF
C5053	430B9025	C,ELEC 16V 10UF
C5054	430B9556	C,ELEC 250V 10UF
C5055	430B9536	C,ELEC 200V 10UF
C5057	42703451	C,FILM 630V 1000PF
C5058	421D6013	C,CERAMIC 50V 0.1UF
C5059	427F4667	C,FILM 50V 0.022UF
C5080	4303J214	C,ELEC 200V 4.7UF
C5081	430B9061	C,ELEC 50V 1.0UF
C5082	4309J183	C,ELEC 250V 10UF
C5063	4309J183	C,ELEC 250V 10UF
C5064	420C9563	C,CERAMIC 500V 1000PF
C5085	430B9041	C,ELEC 25V 47UF
C5086	421D6009	C,CERAMIC 25V 0.1UF
C5501	42817255	C,METAL 2KV 6800PF
C5502	42817255	C,METAL 2KV 6800PF
C5503	42807541	C,FILM 1.6K 0.043UF
C5507	42808501	C,METAL FILM 1.6KV 1000PF
C5507B	42703455	C,FILM 630V 2200PF
C5508	42703567	C,FILM 200V 0.022UF
C5509	42840149	C,METAL 250V 2.2UF 5%

SYMBOL	PARTS NO	DESCRIPTION
C5561	421D6009	C,CERAMIC 25V 0.1UF
C5562	430B9029	C,ELEC 16V 100UF
C5565	430B9041	C,ELEC 25V 47UF
C5566	421D6009	C,CERAMIC 25V 0.1UF
C5567	430B9041	C,ELEC 25V 47UF
C5571	427F4629	C,FILM 50V 0.22UF
C5572	427F4629	C,FILM 50V 0.22UF
C5573	427F4629	C,FILM 50V 0.22UF
C5574	427F4629	C,FILM 50V 0.22UF
C5575	430B9041	C,ELEC 25V 47UF
C5576	421D6009	C,CERAMIC 25V 0.1UF
C5577	430B9028	C,ELEC 16V 47UF
C701	43KB7515	C,ELEC 16V 10UF
C702	43KB7515	C,ELEC 16V 10UF
C703	43KB7515	C,ELEC 16V 10UF
C706	43KB7538	C,ELEC 16V 100UF
C707	42AA2721	C,CERAMIC 50V 0.1UF
C708	43KB7515	C,ELEC 16V 10UF
C709	43KB7515	C,ELEC 16V 10UF
C711	43KB7515	C,ELEC 16V 10UF
C713	43KB7533	C,ELEC 50V 2.2UF
C714	43KB7533	C,ELEC 50V 2.2UF
C715	43KB7533	C,ELEC 50V 2.2UF
C716	43KB7533	C,ELEC 50V 2.2UF
C717	43KB7533	C,ELEC 50V 2.2UF
C718	43KB7533	C,ELEC 50V 2.2UF
C719	42CA1464	C,CERAMIC 50V 1000PF
C7207	43KB7441	C,ELEC CHIP 16V 10UF
C7208	43KB7444	C,ELEC CHIP 16V 47UF
C7209	43KB7444	C,ELEC CHIP 16V 47UF
C7210	42AA2721	C,CERAMIC 50V 0.1UF
C722	42CA1464	C,CERAMIC 50V 1000PF
C7226	42CA1434	C,CERAMIC 50V 56PF
C7227	42CA1428	C,CERAMIC 50V 33PF
C7228	42CA1420	C,CERAMIC 50V 15PF
C7229	42CA1420	C,CERAMIC 50V 15PF
C723	42CA1464	C,CERAMIC 50V 1000PF
C7230	42AA2726	C,CERAMIC 50V 0.01UF
C7231	43KB7518	C,ELEC 16V 47UF
C7232	42CA1440	C,CERAMIC 50V 100PF

SYMBOL	PARTS NO	DESCRIPTION
C5510	42839022	C,METAL FILM 250V 0.1UF
C5511	42839022	C,METAL FILM 250V 0.1UF
C5512	430B9041	C,ELEC 25V 47UF
C5513	421D6009	C,CERAMIC 25V 0.1UF
C5514	427J9057	C,FILM 100V 3300PF
C5515	430B9556	C,ELEC 250V 10UF
C5518	427F4607	C,FILM 50V 3300PF
C5519	427F4607	C,FILM 50V 3300PF
C5521	42816373	C,FILM 250V 4.7UF 5%
C5522	427F4609	C,FILM 50V 4700PF
C5524	430B9062	C,ELEC 50V 2.2UF
C5525	430B9069	C,ELEC 50V 100UF
C5526	430B9069	C,ELEC 50V 100UF
C5527	433A6079	C,ELEC 50V 2.2UF
C5528	42074709	C,CERAMIC 2.0KV 470PF
C5529	42839702	C,METAL 400V 0.12UF
C5530	42839702	C,METAL 400V 0.12UF
C5531	42839702	C,METAL 400V 0.12UF
C5532	42839702	C,METAL 400V 0.12UF
C5533	42837103	C,METAL FILM 400V 0.056
C5533B	42837103	C,METAL FILM 400V 0.056
C5535	42837103	C,METAL FILM 400V 0.056
C5537	42839702	C,METAL 400V 0.12UF
C5539	42837123	C,METAL FILM 400V 0.39
C5541	42839707	C,METAL 400V 0.27UF 5%
C5543	42839637	C,METAL 400V 0.3UF
C5546	42816371	C,FILM 250V 3.3UF 5%
C5547	421D6009	C,CERAMIC 25V 0.1UF
C5548	421D6009	C,CERAMIC 25V 0.1UF
C5549	421D6009	C,CERAMIC 25V 0.1UF
C5550	421D6009	C,CERAMIC 25V 0.1UF
C5551	421D6009	C,CERAMIC 25V 0.1UF
C5552	421D6009	C,CERAMIC 25V 0.1UF
C5553	421D6009	C,CERAMIC 25V 0.1UF
C5554	421D6009	C,CERAMIC 25V 0.1UF
C5556	421D6009	C,CERAMIC 25V 0.1UF
C5557	430B9029	C,ELEC 16V 100UF
C5558	421D6009	C,CERAMIC 25V 0.1UF
C5559	430B9041	C,ELEC 25V 47UF
C5560	421D6009	C,CERAMIC 25V 0.1UF

SYMBOL	PARTS NO	DESCRIPTION
C7233	42AA2721	C,CERAMIC 50V 0.1UF
C7234	42AA2721	C,CERAMIC 50V 0.1UF
C7235	43KB7441	C,ELEC CHIP 16V 10UF
C7236	43KB7518	C,ELEC 16V 47UF
C7237	43KB7518	C,ELEC 16V 47UF
C7239	42AA2721	C,CERAMIC 50V 0.1UF
C724	42CA1464	C,CERAMIC 50V 1000PF
C7240	43KB7441	C,ELEC CHIP 16V 10UF
C7241	42AA2721	C,CERAMIC 50V 0.1UF
C7242	42AA2721	C,CERAMIC 50V 0.1UF
C7249	43KB7518	C,ELEC 16V 47UF
C725	43KB7476	C,ELEC CHIP 50V 2.2UF
C7250	43KB7452	C,ELEC CHIP 25V 33UF
C7251	42AA2721	C,CERAMIC 50V 0.1UF
C7252	42AA2721	C,CERAMIC 50V 0.1UF
C7253	42AA2721	C,CERAMIC 50V 0.1UF
C7254	42AA2721	C,CERAMIC 50V 0.1UF
C7255	42AA2721	C,CERAMIC 50V 0.1UF
C7256	43KB7441	C,ELEC CHIP 16V 10UF
C7257	42AA2721	C,CERAMIC 50V 0.1UF
C7258	42AA2746	C,CERAMIC 25V 0.22UF
C7259	43KB7474	C,ELEC CHIP 50V 0.47UF
C7260	430B9041	C,ELEC 25V 47UF
C7261	42AA2721	C,CERAMIC 50V 0.1UF
C7262	43KB7474	C,ELEC CHIP 50V 0.47UF
C7263	42AA2721	C,CERAMIC 50V 0.1UF
C7264	42AA1521	C,CHIP CERAMIC 50V 0.01UF
C7265	42AA2746	C,CERAMIC 25V 0.22UF
C7266	42AA2746	C,CERAMIC 25V 0.22UF
C7267	43KB7441	C,ELEC CHIP 16V 10UF
C7268	43KB7474	C,ELEC CHIP 50V 0.47UF
C7269	43KB7474	C,ELEC CHIP 50V 0.47UF
C7270	42CA1440	C,CERAMIC 50V 100PF
C7271	42AA2721	C,CERAMIC 50V 0.1UF
C7272	42AA2721	C,CERAMIC 50V 0.1UF
C7273	42AA2721	C,CERAMIC 50V 0.1UF
C7274	42AA2721	C,CERAMIC 50V 0.1UF
C7275	42AA1521	C,CHIP CERAMIC 50V 0.01UF
C7276	42AA1521	C,CHIP CERAMIC 50V 0.01UF
C7277	42CA1430	C,CERAMIC 50V 39PF

SYMBOL	PARTS NO	DESCRIPTION
C7278	42CA1432	C.CERAMIC 50V 47PF
C7279	42AA2746	C.CERAMIC 25V 0.22UF
C728	42AA2721	C.CERAMIC 50V 0.1UF
C7281	42AA2746	C.CERAMIC 25V 0.22UF
C7282	42AA2746	C.CERAMIC 25V 0.22UF
C7283	43KB7452	C.ELEC CHIP 25V 33UF
C7284	42AA2721	C.CERAMIC 50V 0.1UF
C7285	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7286	42AA2721	C.CERAMIC 50V 0.1UF
C7287	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7288	42CA1418	C.CERAMIC 50V 12PF
C7289	42CA1415	C.CHIP 50V 9.0PF
C729	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7290	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7291	42AA2721	C.CERAMIC 50V 0.1UF
C7292	43KB7452	C.ELEC CHIP 25V 33UF
C7293	42AA2721	C.CERAMIC 50V 0.1UF
C7294	43KB7475	C.ELEC CHIP 50V 1.0UF
C7295	43KB7475	C.ELEC CHIP 50V 1.0UF
C7296	42AA2729	C.CERAMIC 50V 0.047UF
C7297	43KB7441	C.ELEC CHIP 16V 10UF
C7298	43KB7475	C.ELEC CHIP 50V 1.0UF
C7299	430B9032	C.ELEC 16V 470UF
C730	42CA1464	C.CERAMIC 50V 1000PF
C7300	42AA2721	C.CERAMIC 50V 0.1UF
C7301	43KB7532	C.ELEC 50V 1.0UF
C7302	42CA1440	C.CERAMIC 50V 100PF
C7303	43KB7530	C.ELEC 50V 0.33UF
C7304	42CA1440	C.CERAMIC 50V 100PF
C7305	43KB7475	C.ELEC CHIP 50V 1.0UF
C7306	43KB7475	C.ELEC CHIP 50V 1.0UF
C7307	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7308	43KB7476	C.ELEC CHIP 50V 2.2UF
C7309	42AA2721	C.CERAMIC 50V 0.1UF
C731	42CA1464	C.CERAMIC 50V 1000PF
C7310	42AA2721	C.CERAMIC 50V 0.1UF
C7311	42AA2721	C.CERAMIC 50V 0.1UF
C7312	42AA2721	C.CERAMIC 50V 0.1UF
C7313	42AA2721	C.CERAMIC 50V 0.1UF
C7314	430B9032	C.ELEC 16V 470UF

SYMBOL	PARTS NO	DESCRIPTION
C7411	42CA1464	C.CERAMIC 50V 1000PF
C7412	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7413	42CA1422	C.CERAMIC 50V 18PF
C7414	42CA1422	C.CERAMIC 50V 18PF
C7415	42AA2137	C.CERAMIC 50V 0.33UF
C7416	42AA2729	C.CERAMIC 50V 0.047UF
C7417	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7418	42AA2721	C.CERAMIC 50V 0.1UF
C7419	42AA2721	C.CERAMIC 50V 0.1UF
C7422	43KB7523	C.ELEC 25V 33UF
C7423	42AA2721	C.CERAMIC 50V 0.1UF
C7424	42AA2721	C.CERAMIC 50V 0.1UF
C7425	43KB7441	C.ELEC CHIP 16V 10UF
C7426	42AA1515	C.CHIP CERAMIC 50V 3300PF
C7427	43KB7531	C.ELEC 50V 0.47UF
C7428	42AA2721	C.CERAMIC 50V 0.1UF
C7429	42AA1523	C.CHIP CERAMIC 50V0.015UF
C7432	43KB7452	C.ELEC CHIP 25V 33UF
C7433	42CA1464	C.CERAMIC 50V 1000PF
C7434	42AA2721	C.CERAMIC 50V 0.1UF
C7435	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7436	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7437	430B9042	C.ELEC 25V 100UF
C7438	42CA1416	C.CERAMIC 50V 10PF
C7439	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7440	42AA2721	C.CERAMIC 50V 0.1UF
C7441	42AA2721	C.CERAMIC 50V 0.1UF
C7442	42AA2721	C.CERAMIC 50V 0.1UF
C7443	42AA2721	C.CERAMIC 50V 0.1UF
C7444	42AA2721	C.CERAMIC 50V 0.1UF
C7445	42AA2721	C.CERAMIC 50V 0.1UF
C7446	42AA2721	C.CERAMIC 50V 0.1UF
C7447	430B9042	C.ELEC 25V 100UF
C7449	42AA2721	C.CERAMIC 50V 0.1UF
C7451	42AA2721	C.CERAMIC 50V 0.1UF
C7452	42AA2721	C.CERAMIC 50V 0.1UF
C7453	42AA2721	C.CERAMIC 50V 0.1UF
C7501	42CA1432	C.CERAMIC 50V 47PF
C7502	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7503	43KB7523	C.ELEC 25V 33UF

SYMBOL	PARTS NO	DESCRIPTION
C7315	42AA2721	C.CERAMIC 50V 0.1UF
C7316	42AA1516	C.CHIP CERAMIC 50V 3900PF
C7317	42AA2721	C.CERAMIC 50V 0.1UF
C7318	43KB7476	C.ELEC CHIP 50V 2.2UF
C7319	43KB7475	C.ELEC CHIP 50V 1.0UF
C732	42CA1464	C.CERAMIC 50V 1000PF
C7320	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7321	42AA2721	C.CERAMIC 50V 0.1UF
C7322	430B9032	C.ELEC 16V 470UF
C7323	43KB7441	C.ELEC CHIP 16V 10UF
C7324	43KB7441	C.ELEC CHIP 16V 10UF
C7325	42AA2721	C.CERAMIC 50V 0.1UF
C7326	42CA1440	C.CERAMIC 50V 100PF
C7327	42CA1440	C.CERAMIC 50V 100PF
C7328	42AA2721	C.CERAMIC 50V 0.1UF
C7329	43KB7538	C.ELEC 16V 100UF
C733	430B6032	C.ELEC 16V 470UF
C7330	42AA2721	C.CERAMIC 50V 0.1UF
C7331	42AA2721	C.CERAMIC 50V 0.1UF
C7332	42AA2721	C.CERAMIC 50V 0.1UF
C7333	42AA2721	C.CERAMIC 50V 0.1UF
C7334	42AA2721	C.CERAMIC 50V 0.1UF
C7335	42AA2721	C.CERAMIC 50V 0.1UF
C7336	430B9029	C.ELEC 16V 100UF
C7337	42AA2721	C.CERAMIC 50V 0.1UF
C7338	42AA2721	C.CERAMIC 50V 0.1UF
C7339	430B9029	C.ELEC 16V 100UF
C734	42AA2721	C.CERAMIC 50V 0.1UF
C7355	430B9043	C.ELEC 25V 220UF
C7356	430B9043	C.ELEC 25V 220UF
C7401	43KB7523	C.ELEC 25V 33UF
C7402	42AA2721	C.CERAMIC 50V 0.1UF
C7403	42CA1428	C.CERAMIC 50V 33PF
C7404	430B9041	C.ELEC 25V 47UF
C7405	42AA2721	C.CERAMIC 50V 0.1UF
C7406	42AA2721	C.CERAMIC 50V 0.1UF
C7407	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7408	43KB7475	C.ELEC CHIP 50V 1.0UF
C7409	42AA2729	C.CERAMIC 50V 0.047UF
C7410	42CA1416	C.CERAMIC 50V 10PF

SYMBOL	PARTS NO	DESCRIPTION
C7504	42CA1432	C.CERAMIC 50V 47PF
C7505	42CA1432	C.CERAMIC 50V 47PF
C8001	430B9064	C.ELEC 50V 4.7UF
C8002	42AA2721	C.CERAMIC 50V 0.1UF
C8003	433A7021	C.ELEC 25V 10UF
C8004	42AA2721	C.CERAMIC 50V 0.1UF
C8005	433A7021	C.ELEC 25V 10UF
C8006	42AA2721	C.CERAMIC 50V 0.1UF
C8007	433A7021	C.ELEC 25V 10UF
C8009	42AA2721	C.CERAMIC 50V 0.1UF
C801	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8010	430B9029	C.ELEC 16V 100UF
C8011	42AA2721	C.CERAMIC 50V 0.1UF
C8012	430B9062	C.ELEC 50V 2.2UF
C8013	430B9062	C.ELEC 50V 2.2UF
C8014	430B9062	C.ELEC 50V 2.2UF
C8015	42AA2721	C.CERAMIC 50V 0.1UF
C8016	430B9039	C.ELEC 25V 22UF
C8017	42AA2721	C.CERAMIC 50V 0.1UF
C8018	430B6039	C.ELEC 25V 22UF
C8019	42AA2721	C.CERAMIC 50V 0.1UF
C802	43CC1345	C.ELEC 16V 33UF
C8020	42AA2721	C.CERAMIC 50V 0.1UF
C8021	430B6039	C.ELEC 25V 22UF
C8022	430B6061	C.ELEC 50V 1.0UF
C8023	42AA1517	C.CHIP CERAMIC 50V 4700PF
C8024	42AA2721	C.CERAMIC 50V 0.1UF
C8026	42CA1426	C.CERAMIC 50V 27PF
C8028	42CA1464	C.CERAMIC 50V 1000PF
C8029	430B9029	C.ELEC 16V 100UF
C803	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8032	430B9061	C.ELEC 50V 1.0UF
C8033	430B9061	C.ELEC 50V 1.0UF
C8034	42AA2721	C.CERAMIC 50V 0.1UF
C8038	430B9033	C.ELEC 16V 1000UF
C8039	42AA2721	C.CERAMIC 50V 0.1UF
C804	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8040	42AA2721	C.CERAMIC 50V 0.1UF
C8041	430B9042	C.ELEC 25V 100UF
C8045	430B9029	C.ELEC 16V 100UF

SYMBOL	PARTS NO	DESCRIPTION
C8046	42AA2721	C.CERAMIC 50V 0.1UF
C8047	42AA2721	C.CERAMIC 50V 0.1UF
C8048	430B9042	C.ELEC 25V 100UF
C8049	430B9038	C.ELEC 25V 10UF
C805	43CC1345	C.ELEC 16V 33UF
C8050	430B8178	C.ELEC 50V 4.7UF
C8051	430B8176	C.ELEC 50V 2.2UF
C8052	42AA2721	C.CERAMIC 50V 0.1UF
C8053	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8054	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8055	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8056	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8057	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8058	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8059	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C806	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8060	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8061	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8062	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C807	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C808	43CC1345	C.ELEC 16V 33UF
C809	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C810	43CC1350	C.ELEC 25V 3.3UF
C8102	42CA1458	C.CERAMIC 50V 560PF
C8104	42AA2721	C.CERAMIC 50V 0.1UF
C8105	430B9552	C.ELEC 250V 1.0UF
C8106	42840105	C.METAL FILM 250V 1UF
C811	42AA2721	C.CERAMIC 50V 0.1UF
C8111	42AA2721	C.CERAMIC 50V 0.1UF
C8112	430B9552	C.ELEC 250V 1.0UF
C8113	42840105	C.METAL FILM 250V 1UF
C8118	42AA2721	C.CERAMIC 50V 0.1UF
C8119	430B9552	C.ELEC 250V 1.0UF
C812	42AA2721	C.CERAMIC 50V 0.1UF
C8120	42840105	C.METAL FILM 250V 1UF
C8122	4201J575	C.CERAMIC 500V 0.01UF
C8123	430B9556	C.ELEC 250V 10UF
C8124	42AA2721	C.CERAMIC 50V 0.1UF
C8125	4201J575	C.CERAMIC 500V 0.01UF
C8126	430B9556	C.ELEC 250V 10UF

SYMBOL	PARTS NO	DESCRIPTION
C841	42AA2721	C.CERAMIC 50V 0.1UF
C842	42AA2721	C.CERAMIC 50V 0.1UF
C844	42AA2721	C.CERAMIC 50V 0.1UF
C845	43KB7523	C.ELEC 25V 33UF
C846	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C847	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C848	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C901	421D6009	C.CERAMIC 25V 0.1UF
C902	42034143	C.CERAMIC 2KV 1000PF
C904	42019175	C.CERAMIC 2KV 0.01UF

SYMBOL	PARTS NO	DESCRIPTION
C8128	430B6555	C.ELEC 250V 4.7UF
C8129	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C813	43CC1350	C.ELEC 25V 3.3UF
C8130	430B6555	C.ELEC 250V 4.7UF
C8131	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8132	430B6555	C.ELEC 250V 4.7UF
C8133	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8138	42CA1416	C.CERAMIC 50V 10PF
C8139	42CA1416	C.CERAMIC 50V 10PF
C814	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8140	42CA1416	C.CERAMIC 50V 10PF
C8141	42AA2721	C.CERAMIC 50V 0.1UF
C8142	42AA2721	C.CERAMIC 50V 0.1UF
C8143	42AA2721	C.CERAMIC 50V 0.1UF
C815	43CC1345	C.ELEC 16V 33UF
C816	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C817	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C818	43CC1345	C.ELEC 16V 33UF
C819	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C820	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C821	43CC1345	C.ELEC 16V 33UF
C822	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C823	42AA2721	C.CERAMIC 50V 0.1UF
C824	43KB7523	C.ELEC 25V 33UF
C825	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C826	43CC1345	C.ELEC 16V 33UF
C827	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C828	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C829	43CC1345	C.ELEC 16V 33UF
C830	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C831	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C832	43CC1345	C.ELEC 16V 33UF
C833	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C834	42AA2721	C.CERAMIC 50V 0.1UF
C835	43KB7452	C.ELEC CHIP 25V 33UF
C836	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C837	43KB7538	C.ELEC 16V 100UF
C838	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C839	43KB7515	C.ELEC 16V 10UF
C840	43KB7538	C.ELEC 16V 100UF

2. XM-2960

SYMBOL	PARTS NO	DESCRIPTION
*** CRT & TUNER ***		
CRT	33029036	CRT-M68LMF256X
*** ICS ***		
IC1003	370EC030	MOS HD74HC573FP-EL
IC1004	37058820	MOS UPD78P018FYCW
IC1005	370E3275	MOS HD74HC138FPTL
IC1006	37058805	MOS 24LC08B/P
IC1007	37056122	MOS UPD71055C
IC1008	371E1568	IC PST5296-2(T) (3.3V RES)
IC1010	37058829	MOS UPD78P014YCW
IC1011	37058582	MOS MAX232CPE (TRNSMIT)
IC1012	37056111	MOS UPD71051C
IC1013	37056111	MOS UPD71051C
IC1014	370E3306	MOS UPD74HC32GS-T2
IC1015	37056122	MOS UPD71055C
IC1022	37005160	IC MC7812CT (JBL1045CT)
IC1023	37005164	IC MC7912CT (REG)
IC1024	37005228	IC PQ05RF1 (REG)
IC1030	37009037	IC UPC1885CT
IC1031	370E3425	MOS UPD74HC221AG-T1
IC1032	37101395	IC BA10324
IC1033	37011320	IC LA6500
IC1301	37001086	IC TA8211AH (AMP)
IC1302	37001075	IC UPC1406HA (DC-CONT)
IC1401	37011068	IC UPC4558C (OP AMP)
IC1402	37006023	IC STK792-110
IC1403	37005315	IC NJM7818FA
IC1404	37005316	IC NJM7918FA
IC2002	37056616	IC BA10358
IC5003	370K0011	IC UPC78L12T-E2
IC5005	37058804	MOS M62353P
IC5006	37011363	IC M52723SP
IC5501	37056616	IC BA10358
IC5502	37101395	IC BA10324
IC5503	37058477	MOS UPD6345C (DRIVER)
IC5504	37005085	IC UPC78L12J
IC701	37011361	IC MM1313AD (AV-SW)
IC7202	370AA009	IC MM1112XF (V-SW)

SYMBOL	PARTS NO	DESCRIPTION
IC7205	370AA008	IC MM1111XF (V-SW)
IC7208	370AA008	IC MM1111XF (V-SW)
IC7209	37011342	IC TA8772AN (1H DL)
IC7210	37003058	IC TA8880CN
IC7211	370E3413	MOS UPD4538BG-T2
IC7213	37903282	IC UPC7805AHF
IC7214	37005093	IC NJM7809FA
IC7401	37RAA004	IC CXA1688M-T6
IC7402	37R58088	MCA CXD2024AQ
IC7404	37011299	IC LA7950 (50/60 SW)
IC8001	37010006	IC M52320SP
IC8002	370EH018	MOS M62358FP-758C
IC8004	37005258	IC UPC7812AHF (REG)
IC8005	37903282	IC UPC7805AHF
IC801	37RED061	MOS 24LC21T-1/SN
IC802	370E6009	MOS UPD4068BG (T2)
IC803	37011018	IC UPC311C (COMP)
IC804	37056615	IC BA10393
IC805	37011018	IC UPC311C (COMP)
IC8101	37RAA010	IC AD8013AR-14-REEL
RV101	37058792	PHOTO SENSOR SBX8025A-F
*** TRANSISTORS ***		
Q1001	35CB0015	TR 2SC1623-T2B (180°) L5
Q1020	35CB0015	TR 2SC1623-T2B (180°) L5
Q1021	35CB0015	TR 2SC1623-T2B (180°) L5
Q1023	35CB0015	TR 2SC1623-T2B (180°) L5
Q1026	35EB0002	TR FA1A4M-T2B (180°)
Q1030	35CB0015	TR 2SC1623-T2B (180°) L5
Q1033	35CB0015	TR 2SC1623-T2B (180°) L5
Q1034	35CB0015	TR 2SC1623-T2B (180°) L5
Q1035	35CB0015	TR 2SC1623-T2B (180°) L5
Q1038	35CB0015	TR 2SC1623-T2B (180°) L5
Q1044	35EB0002	TR FA1A4M-T2B (180°)
Q1050	35CB0015	TR 2SC1623-T2B (180°) L5
Q1051	35CB0015	TR 2SC1623-T2B (180°) L5
Q1052	35EB0002	TR FA1A4M-T2B (180°)
Q1053	35EB0026	TR FA1L4M-T2B
Q1055	35EB0026	TR FA1L4M-T2B



SYMBOL	PARTS NO	DESCRIPTION
Q1056	35E80026	TR FA1L4M-T2B
Q1057	35CB0015	TR 2SC1623-T2B(180°) L5
Q1058	35AB0015	TR 2SA812-T2B(180°) M5
Q1059	35AB0015	TR 2SA812-T2B(180°) M5
Q1301	35CB0015	TR 2SC1623-T2B(180°) L5
Q1302	35CB0015	TR 2SC1623-T2B(180°) L5
Q1401	35E80002	TR FA1A4M-T2B(180°)
Q1402	35CB0015	TR 2SC1623-T2B(180°) L5
Q1403	35AB0015	TR 2SA812-T2B(180°) M5
Q1404	35CB0015	TR 2SC1623-T2B(180°) L5
Q1405	350H4418	TR,2SC1473-TA R
Q1407	35063411	TR,2SD401A K
Q5001	35127470	TR 2SJ306
Q5002	350E3218	TR 2SC1740S-T R
Q5003	350K5700	TR 2SA933S-T
Q5004	350E3218	TR 2SC1740S-T R
Q5005	350E3218	TR 2SC1740S-T R
Q5006	350A1500	TR 2SA1767-TA
Q5007	35122800	TR 2SK1271
Q5008	350E3218	TR 2SC1740S-T R
Q5009	350E3218	TR 2SC1740S-T R
Q5010	35005216	TR 2SA1018 P
Q5011	35084400	TR,2SC3063
Q5012	35007204	TR 2SA1381 D
Q5013	35084400	TR,2SC3063
Q5014	35094200	TR 2SC4572
Q5015	35005216	TR 2SA1018 P
Q5017	35124500	TR 2SJ196
Q5020	350H4418	TR,2SC1473-TA R
Q5023	351G0577	TR DTC144ESA-T
Q5024	351G0577	TR DTC144ESA-T
Q5025	35122800	TR 2SK1271
Q5027	350E3218	TR 2SC1740S-T R
Q5028	350A2020	TR 2SA933AS-T
Q5029	35095340	TR 2SC2518
Q5030	35025211	TR 2SB546 K
Q5031	35025211	TR 2SB546 K
Q5032	350H4418	TR,2SC1473-TA R
Q5033	350H4418	TR,2SC1473-TA R
Q5034	350H4418	TR,2SC1473-TA R

SYMBOL	PARTS NO	DESCRIPTION
Q5541	350E3218	TR 2SC1740S-T R
Q5542	350E3218	TR 2SC1740S-T R
Q5543	350E3218	TR 2SC1740S-T R
Q5544	350E3218	TR 2SC1740S-T R
Q705	35AB0015	TR 2SA812-T2B(180°) M5
Q706	35AB0015	TR 2SA812-T2B(180°) M5
Q707	35CB0011	TR 2SC1623-T1B L5
Q7201	35E80026	TR FA1L4M-T2B
Q7202	35E80026	TR FA1L4M-T2B
Q7204	35CB0011	TR 2SC1623-T1B L5
Q7205	35CB0011	TR 2SC1623-T1B L5
Q7206	35CB0011	TR 2SC1623-T1B L5
Q7207	35CB0011	TR 2SC1623-T1B L5
Q7209	35CB0011	TR 2SC1623-T1B L5
Q7210	35E80026	TR FA1L4M-T2B
Q7211	35E80026	TR FA1L4M-T2B
Q7212	35E80026	TR FA1L4M-T2B
Q7213	35E80026	TR FA1L4M-T2B
Q7214	35CB0011	TR 2SC1623-T1B L5
Q7215	35E80026	TR FA1L4M-T2B
Q7216	35E80026	TR FA1L4M-T2B
Q7217	35CB0011	TR 2SC1623-T1B L5
Q7218	35CB0011	TR 2SC1623-T1B L5
Q7219	35CB0011	TR 2SC1623-T1B L5
Q7220	35CB0011	TR 2SC1623-T1B L5
Q7221	35CB0011	TR 2SC1623-T1B L5
Q7222	35CB0011	TR 2SC1623-T1B L5
Q7401	35CB0011	TR 2SC1623-T1B L5
Q7402	35CB0011	TR 2SC1623-T1B L5
Q7403	35CB0011	TR 2SC1623-T1B L5
Q7404	35E80026	TR FA1L4M-T2B
Q7405	35AB0015	TR 2SA812-T2B(180°) M5
Q7406	35AB0015	TR 2SA812-T2B(180°) M5
Q7407	35AB0015	TR 2SA812-T2B(180°) M5
Q7408	35AB0015	TR 2SA812-T2B(180°) M5
Q7409	35AB0015	TR 2SA812-T2B(180°) M5
Q7502	35CB0011	TR 2SC1623-T1B L5
Q7503	35CB0011	TR 2SC1623-T1B L5
Q8003	35CB0011	TR 2SC1623-T1B L5
Q8007	35CB0011	TR 2SC1623-T1B L5

SYMBOL	PARTS NO	DESCRIPTION
Q5035	35095340	TR 2SC2518
Q5036	350H4418	TR,2SC1473-TA R
Q5037	350E3218	TR 2SC1740S-T R
Q5038	350E3218	TR 2SC1740S-T R
Q5039	350A2020	TR 2SA933AS-T
Q5501	35095300	TR 2SC5144
Q5502	35128007	TR FS14SM-18A
Q5503	35128007	TR FS14SM-18A
Q5504	35122500	TR 2SK758
Q5505	35122500	TR 2SK758
Q5506	350E3218	TR 2SC1740S-T R
Q5507	350A2020	TR 2SA933AS-T
Q5508	35070812	TR 2SD1587 L
Q5509	350H4417	TR,2SC1473-TA Q
Q5510	350H4417	TR,2SC1473-TA Q
Q5511	35052317	TR,2SC1573 Q
Q5512	35070812	TR 2SD1587 L
Q5513	35031112	TR 2SB1096 L
Q5514	350E3218	TR 2SC1740S-T R
Q5515	350E3218	TR 2SC1740S-T R
Q5516	350E3218	TR 2SC1740S-T R
Q5517	350E3218	TR 2SC1740S-T R
Q5518	350E3218	TR 2SC1740S-T R
Q5519	350E3218	TR 2SC1740S-T R
Q5520	35127580	TR 2SK1642
Q5520B	35127580	TR 2SK1642
Q5521	35127580	TR 2SK1642
Q5522	35127580	TR 2SK1642
Q5523	35127580	TR 2SK1642
Q5524	35127580	TR 2SK1642
Q5525	35127580	TR 2SK1642
Q5526	35127580	TR 2SK1642
Q5527	35063412	TR 2SD401A L
Q5528	35063412	TR 2SD401A L
Q5529	35063412	TR 2SD401A L
Q5530	35063412	TR 2SD401A L
Q5533	351G0570	TR DTA144ESA-T
Q5535	351G0570	TR DTA144ESA-T
Q5536	351G0577	TR DTC144ESA-T
Q5540	350E3218	TR 2SC1740S-T R

SYMBOL	PARTS NO	DESCRIPTION
Q8008	35AB0015	TR 2SA812-T2B(180°) M5
Q8009	35CB0011	TR 2SC1623-T1B L5
Q801	35CB0011	TR 2SC1623-T1B L5
Q8010	350H5017	TR,2SC3811-TA Q
Q8013	35AB0015	TR 2SA812-T2B(180°) M5
Q8014	35CB0011	TR 2SC1623-T1B L5
Q8015	35CB0011	TR 2SC1623-T1B L5
Q802	35CB0011	TR 2SC1623-T1B L5
Q803	35CB0011	TR 2SC1623-T1B L5
Q804	35CB0011	TR 2SC1623-T1B L5
Q805	35CB0011	TR 2SC1623-T1B L5
Q806	35CB0011	TR 2SC1623-T1B L5
Q807	35E80205	TR DTA144EKA-T146(0°)
Q808	35E80026	TR FA1L4M-T2B
Q810	35E80205	TR DTA144EKA-T146(0°)
Q8101	35095333	TR 2SC4271 E
Q8102	35095323	TR 2SC4623 E
Q8103	35084105	TR,2SC3600 E
Q8104	35006305	TR,2SA1406 E
Q8105	35012053	TR 2SA1371 E
Q8108	35095323	TR 2SC4623 E
Q8109	35084105	TR,2SC3600 E
Q811	35E80026	TR FA1L4M-T2B
Q8110	35006305	TR,2SA1406 E
Q8111	35012053	TR 2SA1371 E
Q8113	35095333	TR 2SC4271 E
Q8114	35095323	TR 2SC4623 E
Q8115	35084105	TR,2SC3600 E
Q8116	35006305	TR,2SA1406 E
Q8117	35012053	TR 2SA1371 E
Q8119	35CB0011	TR 2SC1623-T1B L5
Q8120	35CB0011	TR 2SC1623-T1B L5
Q8124	35CB0011	TR 2SC1623-T1B L5
Q8125	35CB0011	TR 2SC1623-T1B L5
Q8126	35CB0011	TR 2SC1623-T1B L5
Q8127	350H4417	TR,2SC1473-TA Q
Q8128	350H4417	TR,2SC1473-TA Q
Q8129	350H4417	TR,2SC1473-TA Q
Q813	35CB0011	TR 2SC1623-T1B L5
Q8133	35CB2433	TR 2SC4269 4-TB

SYMBOL	PARTS NO	DESCRIPTION
Q8134	35CB2433	TR 2SC4269 4-TB
Q8135	35CB2433	TR 2SC4269 4-TB
Q814	35CB0011	TR 2SC1623-T1B L5
Q815	35CB0011	TR 2SC1623-T1B L5
Q816	35EB0205	TR DTA144EKA-T146 (0*)
Q817	35EB0026	TR FA1L4M-T2B
Q818	35CB0011	TR 2SC1623-T1B L5
Q819	35EB0026	TR FA1L4M-T2B
Q820	35EB0026	TR FA1L4M-T2B
Q8207	35095333	TR 2SC4271 E
Q821	35EB0026	TR FA1L4M-T2B
Q823	35EB0026	TR FA1L4M-T2B
Q824	35EB0026	TR FA1L4M-T2B
Q825	35CB0011	TR 2SC1623-T1B L5
Q826	35CB0011	TR 2SC1623-T1B L5
Q827	35CB2433	TR 2SC4269 4-TB
Q828	35AB0123	TR 2SA1461-T2B Y23
Q829	35CB2433	TR 2SC4269 4-TB
Q830	35AB0123	TR 2SA1461-T2B Y23
Q831	35CB2433	TR 2SC4269 4-TB
Q832	35AB0123	TR 2SA1461-T2B Y23

\*\*\* DIODES \*\*\*

D1001	36CB0213	DIODE DAN212K-T146
D1002	36CB0213	DIODE DAN212K-T146
D1003	361K7522	DIODE ERA15-02 V1
D101	36801348	LED SPR39MVWF
D1011	361K7522	DIODE ERA15-02 V1
D1015	36CB0213	DIODE DAN212K-T146
D1016	36CB0213	DIODE DAN212K-T146
D1021	36CB0213	DIODE DAN212K-T146
D1022	36CB0213	DIODE DAN212K-T146
D1023	36CB0213	DIODE DAN212K-T146
D1024	36CB0213	DIODE DAN212K-T146
D1025	36CB0213	DIODE DAN212K-T146
D1031	36CB0079	DIODE DAN202K-T146 (0*)
D1034	36107562	DIODE EGP10G
D1035	36107562	DIODE EGP10G
D1036	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D5503	361K7541	DIODE EG01A-V1
D5504	361K7541	DIODE EG01A-V1
D5507	360K1049	DIODE 1SS270A TA
D5508	360K1049	DIODE 1SS270A TA
D5509	361K7737	DIODE EG01Z V1
D5510	361K7737	DIODE EG01Z V1
D5513	361K7307	DIODE RGC1V1
D5514	361K7737	DIODE EG01Z V1
D5516	360K1049	DIODE 1SS270A TA
D5517	360K1049	DIODE 1SS270A TA
D5518	360K1049	DIODE 1SS270A TA
D5519	360K1049	DIODE 1SS270A TA
D5520	360K1049	DIODE 1SS270A TA
D5521	360K1049	DIODE 1SS270A TA
D5522	360K1049	DIODE 1SS270A TA
D701	361K7522	DIODE ERA15-02 V1
D7501	36CB0213	DIODE DAN212K-T146
D7502	36CB0213	DIODE DAN212K-T146
D7503	36CB0213	DIODE DAN212K-T146
D7504	36CB0213	DIODE DAN212K-T146
D7505	361K7522	DIODE ERA15-02 V1
D7506	361K7522	DIODE ERA15-02 V1
D7507	36CB0213	DIODE DAN212K-T146
D7508	36CB0213	DIODE DAN212K-T146
D8001	36CB0213	DIODE DAN212K-T146
D8002	36CB0213	DIODE DAN212K-T146
D8003	36CB0213	DIODE DAN212K-T146
D8004	36CB0213	DIODE DAN212K-T146
D8005	36CB0213	DIODE DAN212K-T146
D8006	36CB0213	DIODE DAN212K-T146
D8007	360K1037	DIODE 1SS83
D8008	361K8232	DIODE RB721Q-TT2
D8009	361K8232	DIODE RB721Q-TT2
D801	36CB0213	DIODE DAN212K-T146
D8010	361K8232	DIODE RB721Q-TT2
D8011	361K7522	DIODE ERA15-02 V1
D802	36CB0213	DIODE DAN212K-T146
D803	36CB0213	DIODE DAN212K-T146
D804	36CB0213	DIODE DAN212K-T146
D805	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D1037	36CB0213	DIODE DAN212K-T146
D1038	36CB0213	DIODE DAN212K-T146
D1039	36CB0213	DIODE DAN212K-T146
D1040	36CB0213	DIODE DAN212K-T146
D1041	36CB0079	DIODE DAN202K-T146 (0*)
D1042	36CB0213	DIODE DAN212K-T146
D1043	36CB0079	DIODE DAN202K-T146 (0*)
D1044	36CB0213	DIODE DAN212K-T146
D1301	36CB0213	DIODE DAN212K-T146
D1302	36CB0213	DIODE DAN212K-T146
D1303	36CB0079	DIODE DAN202K-T146 (0*)
D1401	36CB0213	DIODE DAN212K-T146
D1402	36CB0213	DIODE DAN212K-T146
D1403	36CB0079	DIODE DAN202K-T146 (0*)
D1407	36CB0213	DIODE DAN212K-T146
D1408	36CB0213	DIODE DAN212K-T146
D1409	36CB0213	DIODE DAN212K-T146
D5001	36107562	DIODE EGP10G
D5002	36107638	DIODE EGP30G
D5003	360K1049	DIODE 1SS270A TA
D5004	360K1049	DIODE 1SS270A TA
D5006	36107562	DIODE EGP10G
D5007	360K1049	DIODE 1SS270A TA
D5008	360K1049	DIODE 1SS270A TA
D5010	360K1049	DIODE 1SS270A TA
D5011	36107761	DIODE RU4DS(LF-J2)
D5012	36107761	DIODE RU4DS(LF-J2)
D5013	36108254	DIODE ESAC39M-04D F77
D5015	360K1049	DIODE 1SS270A TA
D5016	360K1049	DIODE 1SS270A TA
D5017	360K1049	DIODE 1SS270A TA
D5018	360K1049	DIODE 1SS270A TA
D5019	36107562	DIODE EGP10G
D5020	360K1049	DIODE 1SS270A TA
D5022	360K1049	DIODE 1SS270A TA
D5023	361K7522	DIODE ERA15-02 V1
D5024	360K1049	DIODE 1SS270A TA
D5025	360K1049	DIODE 1SS270A TA
D5501	36107765	DIODE FMQ-G5GS
D5502	36107285	DIODE SB340

SYMBOL	PARTS NO	DESCRIPTION
D806	36CB0213	DIODE DAN212K-T146
D8101	36CB0213	DIODE DAN212K-T146
D8102	361K8232	DIODE RB721Q-TT2
D8103	360K1025	DIODE 1SS133
D8104	360K1025	DIODE 1SS133
D8105	360K1037	DIODE 1SS83
D8106	360K1037	DIODE 1SS83
D8107	360K1037	DIODE 1SS83
D8108	36CB0213	DIODE DAN212K-T146
D8109	361K8232	DIODE RB721Q-TT2
D811	36CB0213	DIODE DAN212K-T146
D8110	360K1025	DIODE 1SS133
D8111	360K1025	DIODE 1SS133
D8112	360K1037	DIODE 1SS83
D8113	360K1037	DIODE 1SS83
D8114	360K1037	DIODE 1SS83
D8115	36CB0213	DIODE DAN212K-T146
D8116	361K8232	DIODE RB721Q-TT2
D8117	360K1025	DIODE 1SS133
D8118	360K1025	DIODE 1SS133
D8119	360K1037	DIODE 1SS83
D812	36CB0213	DIODE DAN212K-T146
D8120	360K1037	DIODE 1SS83
D8121	360K1037	DIODE 1SS83
D813	36CB0213	DIODE DAN212K-T146
D814	36CB0213	DIODE DAN212K-T146
D815	36CB0213	DIODE DAN212K-T146
D816	36CB0213	DIODE DAN212K-T146
D817	36CB0213	DIODE DAN212K-T146
D818	36CB0213	DIODE DAN212K-T146
D819	36CB0213	DIODE DAN212K-T146
D820	36CB0213	DIODE DAN212K-T146
D821	36CB0213	DIODE DAN212K-T146
D822	36CB0213	DIODE DAN212K-T146
D823	36CB0213	DIODE DAN212K-T146
D824	36CB0213	DIODE DAN212K-T146
D825	36CB0213	DIODE DAN212K-T146
D826	36CB0213	DIODE DAN212K-T146
D827	36CB0213	DIODE DAN212K-T146
D828	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D829	36CB0213	DIODE DAN212K-T146
D830	36CB0213	DIODE DAN212K-T146
D831	36CB0213	DIODE DAN212K-T146
D832	36CB0213	DIODE DAN212K-T146
D833	36CB0213	DIODE DAN212K-T146
D834	36CB0213	DIODE DAN212K-T146
D835	36CB0213	DIODE DAN212K-T146
D836	36CB0213	DIODE DAN212K-T146
D837	36CB0213	DIODE DAN212K-T146
D838	36CB0213	DIODE DAN212K-T146
D839	36CB0213	DIODE DAN212K-T146
D840	36CB0213	DIODE DAN212K-T146
D841	36CB0213	DIODE DAN212K-T146
D842	36CB0213	DIODE DAN212K-T146
D843	36CB0213	DIODE DAN212K-T146
D844	36CB0213	DIODE DAN212K-T146
ZD1011	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1012	36BB0101	DIODE RD5.6MB2-T2B(180°)
ZD1013	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1015	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1017	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1018	36BB0061	DIODE RD12MB-T2B
ZD1019	36BB0061	DIODE RD12MB-T2B
ZD1020	36BB0061	DIODE RD12MB-T2B
ZD1021	36BB0061	DIODE RD12MB-T2B
ZD1022	36BB0061	DIODE RD12MB-T2B
ZD1023	36BB0061	DIODE RD12MB-T2B
ZD1024	36BB0061	DIODE RD12MB-T2B
ZD1025	36BB0061	DIODE RD12MB-T2B
ZD1036	36BB0093	DIODE RD4.7MB1-T2B(180°)
ZD1040	36BB0085	DIODE RD3.3MB2-T2B(180°)
ZD1041	36BB0086	DIODE RD3.6MB-T2B(180°)
ZD1242	36BB0097	DIODE RD5.1MB2-T2B(180°)
ZD1301	36BB0122	DIODE RD10MB2-T2B(180°)
ZD1401	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD1404	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD1405	36BB0061	DIODE RD12MB-T2B
ZD1406	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD2001	360K3671	DIODE RD12ES AB2-T4
ZD2002	360K3634	DIODE RD5.1ESB(1)-T4

SYMBOL	PARTS NO	DESCRIPTION
ZD804	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD805	36BB0097	DIODE RD5.1MB2-T2B(180°)
ZD806	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD807	36BB0099	DIODE RD5.6MB-T2B(180°)
*** TRANSFORMERS ***		
L5002	46207001	COIL, CHOKE 2MH
L5006	46316606	COIL, CHOKE
T5002	47105429	F. B. T (MSU1FH49)
T5003	46316604	TRANS, DYNAMIC FOCUS
T5501	47710022	TRANS, H. OUT
T5502	45805001	TRANS, H. DRIVE
*** VARIABLE RESISTORS ***		
VR1001	41505205	R, VARIABLE B5.0K
VR1201	41071222	R, VARIABLE B330K
VR1301	41071213	R, VARIABLE B10K
VR1401	41071011	R, VARIABLE B4.7K
VR2001	41505210	R, VARIABLE B200K
VR2002	41505107	R, VARIABLE B5K
VRT201	410G1210	R, VARIABLE B3.3K
VRT202	410G1210	R, VARIABLE B3.3K
VRT401	410G1205	R, VARIABLE B470
VR8001	410G1222	R, VARIABLE B330K
*** RELAYS & SWITCHES ***		
RL5501	65602521	RELAY G6C-1114P
RL5502	65602521	RELAY G6C-1114P
RL5503	65602521	RELAY G6C-1114P
RL5504	65602521	RELAY G6C-1114P
RL5505	65602157	RELAY
RL8101	65602571	RELAY G6E-134P-US. DC12V
RL8102	65602571	RELAY G6E-134P-US. DC12V
RL8103	65602571	RELAY G6E-134P-US. DC12V
SW1001	653F1038	PUSH SWITCH
S101	65313308	PUSH SWITCH BUTTON
S102	65361049	SW. TACT
S103	65361049	SW. TACT
S104	65361049	SW. TACT
S105	65361049	SW. TACT
S106	65361049	SW. TACT

SYMBOL	PARTS NO	DESCRIPTION
ZD2003	360K3634	DIODE RD5.1ESB(1)-T4
ZD5002	360K3643	DIODE RD6.2ES AB2-T4
ZD5003	360K3654	DIODE RD8.2ES AB1-T4
ZD5004	360K3623	DIODE RD3.9ESB(1)-T4
ZD5007	360K3662	DIODE RD10ESB(1)-T4
ZD5008	360K3658	DIODE RD9.1ESB(1)-T4
ZD5009	360K3658	DIODE RD9.1ESB(1)-T4
ZD5010	360K3634	DIODE RD5.1ESB(1)-T4
ZD5501	360K3671	DIODE RD12ES AB2-T4
ZD5502	360K3688	DIODE RD18ES AB3-T4
ZD5503	360K3635	DIODE RD5.1ESB(2)-T4
ZD7201	36BB0098	DIODE RD5.1MB3-T2B(180°)
ZD7202	36BB0088	DIODE RD3.6MB2-T2B(180°)
ZD7501	36BB0098	DIODE RD5.1MB3-T2B(180°)
ZD7502	36BB0071	DIODE RD15MB2-T2(180°)
ZD7503	36BB0071	DIODE RD15MB2-T2(180°)
ZD7504	36BB0071	DIODE RD15MB2-T2(180°)
ZD7505	36BB0071	DIODE RD15MB2-T2(180°)
ZD7506	36BB0071	DIODE RD15MB2-T2(180°)
ZD7507	36BB0071	DIODE RD15MB2-T2(180°)
ZD7508	36BB0071	DIODE RD15MB2-T2(180°)
ZD7509	36BB0071	DIODE RD15MB2-T2(180°)
ZD7510	36BB0071	DIODE RD15MB2-T2(180°)
ZD7511	36BB0071	DIODE RD15MB2-T2(180°)
ZD7512	36BB0071	DIODE RD15MB2-T2(180°)
ZD7513	36BB0071	DIODE RD15MB2-T2(180°)
ZD7514	36BB0071	DIODE RD15MB2-T2(180°)
ZD7515	36BB0071	DIODE RD15MB2-T2(180°)
ZD7516	36BB0071	DIODE RD15MB2-T2(180°)
ZD7517	36BB0071	DIODE RD15MB2-T2(180°)
ZD8002	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD8003	36BB0108	DIODE RD6.8MB2-T2B(180°)
ZD8004	36BB0097	DIODE RD5.1MB2-T2B(180°)
ZD8005	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD8006	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD8007	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD8008	36BB0105	DIODE RD6.2MB2-T2B(180°)
ZD801	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD802	36BB0099	DIODE RD5.6MB-T2B(180°)
ZD803	36BB0099	DIODE RD5.6MB-T2B(180°)

SYMBOL	PARTS NO	DESCRIPTION
S107	65361049	SW. TACT
S1401	65113508	SWITCH, SLIDE
S701	65113270	SWITCH, SLIDE
S702	65113270	SWITCH, SLIDE
S703	65113270	SWITCH, SLIDE
S7501	65121105	SWITCH, SLIDE
S801	65113270	SWITCH, SLIDE
S802	65113270	SWITCH, SLIDE
S803	65113270	SWITCH, SLIDE
S804	65113508	SWITCH, SLIDE
*** COILS & FILTERS ***		
CF7201	39603402	FOCUS CONTROL VOLUME
DL7201	611A1008	CERAMIC TRAP
DL7202	61511048	DELAY LINE 0.3US
DL7203	61EA1638	DELAY LINE 0.1US
	61EA1639	DELAY LINE 0.25US
FB5001	61605005	FERRITE BEADS 5*10*1.8
FB5002	61605005	FERRITE BEADS 5*10*1.8
FB501	61605008	FERRITE BEADS 3.5*5*1.3
FB502	61605008	FERRITE BEADS 3.5*5*1.3
FB503	61605008	FERRITE BEADS 3.5*5*1.3
FL7401	39KB6276	L. P. F 8MHZ TH355LSJ-5728
FL7402	39KB6276	L. P. F 8MHZ TH355LSJ-5728
FL7403	39KB6276	L. P. F 8MHZ TH355LSJ-5728
FL801	616K6814	NOISE FILTER
FL802	616K6814	NOISE FILTER
FL803	616K6814	NOISE FILTER
FL804	616K6814	NOISE FILTER
FL805	616K6823	NOISE FILTER
FL806	616K6814	NOISE FILTER
FL807	616K6823	NOISE FILTER
FL808	616K6814	NOISE FILTER
FL809	616K6814	NOISE FILTER
FL8100	61605007	FERRITE BEADS 2.5*1.2*0.7
FL8101	61605007	FERRITE BEADS 2.5*1.2*0.7
FL8102	61605007	FERRITE BEADS 2.5*1.2*0.7
L1001	610F7514	COIL, FILTER 5.6UH
L1002	610F7514	COIL, FILTER 5.6UH

SYMBOL	PARTS NO	DESCRIPTION
L101	610E1743	COIL,FILTER 1500UH
L1010	610F7514	COIL,FILTER 5.8UH
L1020	610F7529	COIL,FILTER 100UH
L5001	610G0233	FILTER CHOKE PJ8T-470K
L5003	61099118	FILTER COIL
L5004	61099140	COIL,FILTER 100L P110
L5005	61099140	COIL,FILTER 100L P110
L5501	60917073	COIL,H.LIN
L5502	60917073	COIL,H.LIN
L5503	61099126	COIL,FILTER 330UH
L5504	61099141	COIL,CHOKE
L5505	61099118	FILTER COIL
L7201	610E1710	COIL,FILTER 2.7UH
L7202	610E1727	COIL,FILTER 68UH
L7203	610E1728	COIL,FILTER 82UH
L7204	610E1720	COIL,FILTER 18UH
L7205	610E1725	COIL,FILTER 47UH
L7206	610E1725	COIL,FILTER 47UH
L7207	610E1725	COIL,FILTER 47UH
L7208	610E1725	COIL,FILTER 47UH
L7209	610E1725	COIL,FILTER 47UH
L7210	610E1723	COIL,FILTER 33UH
L7211	610E1724	COIL,FILTER 39UH
L7212	610E1725	COIL,FILTER 47UH
L7213	610E1725	COIL,FILTER 47UH
L7401	610E1731	COIL,FILTER 150UH
L7402	610E1733	COIL,FILTER 220UH
L7403	610E1733	COIL,FILTER 220UH
L7404	610E1733	COIL,FILTER 220UH
L8001	610E1705	COIL,FILTER 1.0UH
L8101	610E1705	COIL,FILTER 1.0UH
L8103	610E1746	COIL,FILTER 0.22UH
L8104	610E1705	COIL,FILTER 1.0UH
L8106	610E1746	COIL,FILTER 0.22UH
L8107	610E1705	COIL,FILTER 1.0UH
L8109	610E1746	COIL,FILTER 0.22UH
L901	610E1750	COIL,FILTER 0.47UH
L902	610E1750	COIL,FILTER 0.47UH
L903	610E1750	COIL,FILTER 0.47UH

SYMBOL	PARTS NO	DESCRIPTION
T5503	60917089	COIL,LIN
T5504	60917089	COIL,LIN
T5505	60917089	COIL,LIN
T5506	60917089	COIL,LIN
WI DEG	61329102	COIL,DEGAUSSING
X1003	61111015	CERAMIC OSC CSB500F2
X7203	61111805	CERAMIC OSC CSB503F30
X7401	61111015	CERAMIC OSC CSB500F2

\*\*\* PWB ASSYS \*\*\*

	933D4DA2	DEF PWB ASSY
	933D4DB2	SW-LED PWB ASSY
	933D4G02	V-CRT PWB ASSY
	933J2TA2	VIDEO I/O PWB ASSY
	933J2TB2	RGB OUT PWB ASSY
	933J2F02	CPU/OSC PWB ASSY
	933D4H02	HV PWB ASSY

\*\*\* ELECTRICAL PARTS & MISCELLANEOUS PARTS \*\*\*

	31710044	FAN MOTOR
	31710045	FAN MOTOR
	63010112	SPEAKER 90*55 16H 5W ALN
	68043001	BATTERY,DRY CELL SUM-3
	70810759	LINE CORD UC3S L3.0
	79644641	RD-346E
	79644641	POWER UNIT
D.Y	48007486	DEFLECTION YOKE
FR5501	39030098	R.NETWORK 4*4.7K 5% 1/8W
FR5502	39030098	R.NETWORK 4*4.7K 5% 1/8W
IC2001	79644661	HV CONTROL UNIT
M701	71123500	BOARD,BNC
M703	70057312	SOCKET,DIN 4P TCS7949
M704	70057008	DIN SOCKET 4P
M705	71123500	BOARD,BNC
M707	70057312	SOCKET,DIN 4P TCS7949
M708	70057008	DIN SOCKET 4P
M709	70051827	JACK,PIN 4P JPJ0918
M710	70051827	JACK,PIN 4P JPJ0918
M711	70051827	JACK,PIN 4P JPJ0918
M721	71199046	PUSH TERMINAL (4P)
M7501	70056200	D-SUB SOCKET (15PIN)
M7502	70056200	D-SUB SOCKET (15PIN)

SYMBOL	PARTS NO	DESCRIPTION
M7503	70505027	HEADPHONE JACK
M7504	70505027	HEADPHONE JACK
M801	70056200	D-SUB SOCKET (15PIN)
M802	70056475	CONNECTOR,D-SUB
M803	71123501	BOARD,BNC
SG/CRT	70032272	SG/CRT SOCKET
SG5001	66706003	SPARK GAP 2.0KV
SG901	66706001	SPARK GAP 1.2KV
SG902	66706001	SPARK GAP 1.2KV
SG903	66706001	SPARK GAP 1.2KV
SG904	66706001	SPARK GAP 1.2KV
SG905	66706001	SPARK GAP 1.2KV
SK1004	70102924	SOCKET,IC 64P
SK1006	70102141	SOCKET,IC 8P
SK1010	70102924	SOCKET,IC 64P
X1001	64098039	X'TAL(10.000MHZ)
X1002	640J9218	X'TAL OSC 9.8304MHZ
X7201	64003027	X'TAL 4.43MHZ(NDK)
X7202	64003022	X'TAL OSC 3.58MHZ
X7402	64099203	X'TAL OSC 14.318MHZ
X7403	64099202	X'TAL OSC 17.73MHZ(KDS)

\*\*\* APPEARANCE PARTS \*\*\*

	70301534	RUBBER WEDGE
	70301536	FERRITE SHEET
	70301537	FERRITE SHEET(60MM)
	24B15751	LED SPACER(H95)
	24C00111	CLAMPER,WIRE (D15)
	24DT6451	FRONT CABINET ASSY
	24DT6171	BACK COVER ASSY
	24D08453	CABINET
	24D10121	FRONT PANEL
	24D10131	BACK COVER
	24F25001	ADHESIVE PIECE A
	24F25011	ADHESIVE PIECE B
	24F25021	ADHESIVE PIECE C
	24F27761	INDICATOR(POW)
	24F27801	HANDLE
	24F27931	CHASSIS BASE
	24GT1381	BUTTON(POW)ASSY
	24G04461	BUTTON(CTL)
	24G04471	BUTTON(POW)

SYMBOL	PARTS NO	DESCRIPTION
	24H25771	SIDE FRAME(R)
	24H25781	SIDE FRAME(L)
	24H25791	BACK FRAME
	24J06871	RUBBER FOOT A
	24J07371	CUSHION SHEET(17*140*0.5)
	24J07382	CUSHION SHEET(90*22*0.35)
	24J07442	SHEET (FRONT)
	24J12321	CUSHION(30*27*T17)
	24K23081	INLAY(TERMINAL)
	24K23091	INLAY(SENSOR)
	24L37311	SPEC PLATE

\*\*\* PRINTED & PACKING MATERIALS \*\*\*

	24806961	BAG,POLYETHYLENE(270*370)
	24813191	BAG,POLYETHYLENE(150*370)
	24MU1071	SPACER(T)
	24MU1081	SPACER(B)
	24MU1911	CARTON BOX
	24M09081	BAG,PROTECTION
	78408132	USER'S MANUAL

\*\*\* RESISTORS \*\*\*

R1150	401G6109	R,CARBON 2.2H 5% 1/4W
R1170	40178135	R,CARBON 27H 5%
R1171	40178135	R,CARBON 27H 5%
R1172	40178135	R,CARBON 27H 5%
R1188	40372137	R,METAL 33H 5% 2W
R1210	401H5661	R,CARBON 330H 5% 1/2W
R1211	401G6109	R,CARBON 2.2H 5% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R1234	401G6109	R,CARBON 2.2H 5% 1/4W
R1239	40178133	R,CARBON 22H 5% 1/2W
R1295	40373143	R,METAL 56H 5% 3W
R1308	40373107	R,METAL 1.8H 5% 3W
R1309	401G6141	R,CARBON 47H 5% 1/4W
R1426	40372169	R,METAL 680H 5% 2W
R1427	40371101	R,METAL 1.0H 5% 1W
R1428	404C1717	R,METAL 68K 1% 1/6W
R1429	401H5721	R,CARBON 100K 5% 1/2W
R1430	40372157	R,METAL 220H 5% 2W
R2001	404C1742	R,METAL 750K 1% 1/6W
R2002	404C1725	R,METAL 150K 1% 1/6W
R2004	401K5683	R,CARBON 2.7K 5% 1/6W
R2005	401K5697	R,CARBON 10K 5% 1/6W
R2006	404C1696	R,METAL 9.1K 1% 1/6W
R2007	404C1697	R,METAL 10K 1% 1/6W
R2008	404C1721	R,METAL 100K 1% 1/6W
R2009	401K5709	R,CARBON 33K 5% 1/6W
R2010	404C1711	R,METAL 39K 1% 1/6W
R2011	404C1677	R,METAL 1.5K 1% 1/6W
R2012	404C1697	R,METAL 10K 1% 1/6W
R2013	401K5721	R,CARBON 100K 5% 1/6W
R2014	401K5697	R,CARBON 10K 5% 1/6W
R5001	401C6695	R,CARBON 8.2K 5% 1/4W
R5002	401K5693	R,CARBON 6.8K 5% 1/6W
R5003	401G6125	R,CARBON 10H 5% 1/4W
R5004	401C6685	R,CARBON 3.3K 5% 1/4W
R5005	401K5649	R,CARBON 100H 5% 1/6W
R5006	401K5633	R,CARBON 22H 5% 1/6W
R5007	401K5633	R,CARBON 22H 5% 1/6W
R5008	401K5633	R,CARBON 22H 5% 1/6W
R5009	401K5633	R,CARBON 22H 5% 1/6W
R5010	401K5633	R,CARBON 22H 5% 1/6W
R5011	401K5633	R,CARBON 22H 5% 1/6W
R5012	401K5633	R,CARBON 22H 5% 1/6W
R5013	40371103	R,METAL 1.2H 5% 1W
R5014	404KB718	R,METAL 75K 1% 1/4W
R5015	401K5609	R,CARBON 2.2H 5% 1/6W
R5016	404KB718	R,METAL 75K 1% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R5069	401H5721	R,CARBON 100K 5% 1/2W
R5070	40372185	R,METAL 3.3K 5% 2W
R5071	40371141	R,METAL 47H 5% 1W
R5072	40371141	R,METAL 47H 5% 1W
R5073	404CA657	R,METAL 220H 1% 1/6W
R5074	401C6693	R,CARBON 6.8K 5% 1/4W
R5075	40372213	R,METAL 47K 5% 2W
R5076	401K5729	R,CARBON 220K 5% 1/6W
R5077	404C1671	R,METAL 820H 1% 1/6W
R5078	404K2713	R,METAL 47K 1% 1/4W
R5079	404K2713	R,METAL 47K 1% 1/4W
R5080	401G6173	R,CARBON 1.0K 5% 1/4W
R5081	404C1721	R,METAL 100K 1% 1/6W
R5082	404C1697	R,METAL 10K 1% 1/6W
R5083	400B3677	R,SOLID 1.5K 5% 1/2W
R5084	401K5697	R,CARBON 10K 5% 1/6W
R5086	401G6149	R,CARBON 100H 5% 1/4W
R5089	401K5697	R,CARBON 10K 5% 1/6W
R5090	40371211	R,METAL 39K 5% 1W
R5092	401K5673	R,CARBON 1.0K 5% 1/6W
R5093	40371161	R,METAL 330H 5% 1W
R5096	401K5641	R,CARBON 47H 5% 1/6W
R5098	401C6633	R,CARBON 22H 5% 1/4W
R5099	401C6633	R,CARBON 22H 5% 1/4W
R5100	404C1721	R,METAL 100K 1% 1/6W
R5101	40224267	R,WIRE 560H 5% 7W
R5102	40224267	R,WIRE 560H 5% 7W
R5103	40224239	R,WIRE 39H 5% 7W
R5105	40224245	R,WIRE 68H 5% 7W
R5106	40224239	R,WIRE 39H 5% 7W
R5107	40224239	R,WIRE 39H 5% 7W
R5108	40224239	R,WIRE 39H 5% 7W
R5109	401K5689	R,CARBON 4.7K 5% 1/6W
R5110	40371189	R,METAL 4.7K 5% 1W
R5111	40373203	R,METAL 18K 5% 3W
R5112	40373197	R,METAL 10K 5% 3W
R5113	404C1729	R,METAL 220K 1% 1/6W
R5114	404C1703	R,METAL 18K 1% 1/6W
R5115	404C1679	R,METAL 1.8K 1% 1/6W
R5116	404C1719	R,METAL 82K 1% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R5017	401C6641	R,CARBON 47H 5% 1/4W
R5018	404C1697	R,METAL 10K 1% 1/6W
R5019	401K5673	R,CARBON 1.0K 5% 1/6W
R5020	401K5673	R,CARBON 1.0K 5% 1/6W
R5021	401K5709	R,CARBON 33K 5% 1/6W
R5022	401K5721	R,CARBON 100K 5% 1/6W
R5023	401K5721	R,CARBON 100K 5% 1/6W
R5024	401K5709	R,CARBON 33K 5% 1/6W
R5025	401K5721	R,CARBON 100K 5% 1/6W
R5026	401K5721	R,CARBON 100K 5% 1/6W
R5027	401K5709	R,CARBON 33K 5% 1/6W
R5028	401K5715	R,CARBON 56K 5% 1/6W
R5029	401K5633	R,CARBON 22H 5% 1/6W
R5030	401K5697	R,CARBON 10K 5% 1/6W
R5031	401C6633	R,CARBON 22H 5% 1/4W
R5034	401K5697	R,CARBON 10K 5% 1/6W
R5035	401K5701	R,CARBON 15K 5% 1/6W
R5036	401K5697	R,CARBON 10K 5% 1/6W
R5038	401K5699	R,CARBON 12K 5% 1/6W
R5039	401K5673	R,CARBON 1.0K 5% 1/6W
R5040	401K5673	R,CARBON 1.0K 5% 1/6W
R5041	401K5709	R,CARBON 33K 5% 1/6W
R5042	40371337	R,METAL 0.47H 5% 1W
R5043	401K5685	R,CARBON 3.3K 5% 1/6W
R5044	401H5725	R,CARBON 150K 5% 1/2W
R5045	401C6633	R,CARBON 22H 5% 1/4W
R5046	40372333	R,METAL 0.33H 5% 2W
R5047	40372333	R,METAL 0.33H 5% 2W
R5051	401K5701	R,CARBON 15K 5% 1/6W
R5055	401G6101	R,CARBON 1.0H 5% 1/4W
R5057	401K5697	R,CARBON 10K 5% 1/6W
R5058	401K5697	R,CARBON 10K 5% 1/6W
R5059	401K5697	R,CARBON 10K 5% 1/6W
R5060	401K5673	R,CARBON 1.0K 5% 1/6W
R5061	404C1693	R,METAL 6.8K 1% 1/6W
R5062	40373151	R,METAL 120H 5% 3W
R5063	40373151	R,METAL 120H 5% 3W
R5064	404K2721	R,METAL 100K 5% 1/4W
R5065	401G6133	R,CARBON 22H 5% 1/4W
R5068	401K5697	R,CARBON 10K 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R5117	401K5697	R,CARBON 10K 5% 1/6W
R5118	401K5697	R,CARBON 10K 5% 1/6W
R5119	401K5697	R,CARBON 10K 5% 1/6W
R5120	401K5697	R,CARBON 10K 5% 1/6W
R5121	404C1697	R,METAL 10K 1% 1/6W
R5122	404C1687	R,METAL 3.9K 1% 1/6W
R5123	404C1669	R,METAL 680H 5% 1/6W
R5124	401K5665	R,CARBON 470H 5% 1/6W
R5125	40372213	R,METAL 47K 5% 2W
R5126	404C1655	R,METAL 180H 1% 1/6W
R5128	40372185	R,METAL 3.3K 5% 2W
R5129	401K5643	R,CARBON 56H 5% 1/6W
R5130	40175149	R,CARBON 100H 5% 1/4W
R5131	401K5665	R,CARBON 470H 5% 1/6W
R5132	401K5641	R,CARBON 47H 5% 1/6W
R5502	404C1697	R,METAL 10K 1% 1/6W
R5503	404C1691	R,METAL 5.6K 1% 1/6W
R5506	404C1697	R,METAL 10K 1% 1/6W
R5507	401K5713	R,CARBON 47K 5% 1/6W
R5508	401K5691	R,CARBON 5.6K 5% 1/6W
R5509	401C6733	R,CARBON 330K 5% 1/4W
R5510	401K5689	R,CARBON 4.7K 5% 1/6W
R5511	401K5699	R,CARBON 12K 5% 1/6W
R5512	401K5673	R,CARBON 1.0K 5% 1/6W
R5513	401H5677	R,CARBON 1.5K 5% 1/2W
R5514	40373199	R,METAL 12K 5% 3W
R5515	401K5673	R,CARBON 1.0K 5% 1/6W
R5516	401K5681	R,CARBON 2.2K 5% 1/6W
R5517	401K5693	R,CARBON 6.8K 5% 1/6W
R5518	401K5693	R,CARBON 6.8K 5% 1/6W
R5519	40371197	R,METAL 10K 5% 1W
R5520	401K5735	R,CARBON 390K 5% 1/6W
R5521	40373155	R,METAL 180H 5% 3W
R5522	40373155	R,METAL 180H 5% 3W
R5523	40373155	R,METAL 180H 5% 3W
R5524	40373181	R,METAL 2.2K 5% 3W
R5525	40373181	R,METAL 2.2K 5% 3W
R5526	401G6109	R,CARBON 2.2H 5% 1/4W
R5527	40373111	R,METAL 2.7H 5% 3W
R5528	40373111	R,METAL 2.7H 5% 3W

SYMBOL	PARTS NO	DESCRIPTION
R5529	40373111	R,METAL 2.7H 5% 3W
R5530	401K5633	R,CARBON 22H 5% 1/6W
R5531	401G6109	R,CARBON 2.2H 5% 1/4W
R5532	401G6109	R,CARBON 2.2H 5% 1/4W
R5533	401H5681	R,CARBON 2.2K 5% 1/2W
R5534	40372137	R,METAL 33H 5% 2W
R5536	401K5713	R,CARBON 47K 5% 1/6W
R5537	401K5713	R,CARBON 47K 5% 1/6W
R5538	401K5697	R,CARBON 10K 5% 1/6W
R5539	401K5705	R,CARBON 22K 5% 1/6W
R5540	401K5697	R,CARBON 10K 5% 1/6W
R5541	401K5697	R,CARBON 10K 5% 1/6W
R5542	401K5705	R,CARBON 22K 5% 1/6W
R5543	401K5701	R,CARBON 15K 5% 1/6W
R5544	401K5701	R,CARBON 15K 5% 1/6W
R5545	401K5701	R,CARBON 15K 5% 1/6W
R5546	401K5701	R,CARBON 15K 5% 1/6W
R5547	401K5701	R,CARBON 15K 5% 1/6W
R5548	401K5697	R,CARBON 10K 5% 1/6W
R5549	401K5701	R,CARBON 15K 5% 1/6W
R5550	401K5701	R,CARBON 15K 5% 1/6W
R5553	401K5655	R,CARBON 180H 5% 1/6W
R5554	401K5655	R,CARBON 180H 5% 1/6W
R5556	40372173	R,METAL 1.0K 5% 2W
R5557	40372159	R,METAL 270H 5% 2W
R5558	40372159	R,METAL 270H 5% 2W
R5559	40371141	R,METAL 47H 5% 1W
R5560	40371141	R,METAL 47H 5% 1W
R5561	40371141	R,METAL 47H 5% 1W
R5562	40371141	R,METAL 47H 5% 1W
R5569	404C1734	R,METAL 360K 1% 1/6W
R5570	404C1721	R,METAL 100K 1% 1/6W
R5571	404C1726	R,METAL 160K 1% 1/6W
R5574	401K5693	R,CARBON 6.8K 5% 1/6W
R5575	404C1732	R,METAL 300K 1% 1/6W
R5577	404C1713	R,METAL 47K 1% 1/6W
R5578	404C1743	R,METAL 820K 1% 1/6W
R5580	401K5693	R,CARBON 6.8K 5% 1/6W
R5581B	401KE649	R,CARBON 100H 5% 1/6W
R5582	401K5649	R,CARBON 100H 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R8005	40372135	R,METAL 27H 5% 2W
R8035	40371163	R,METAL 390H 5% 1W
R805	40178159	R,CARBON 270H 5% 1/2W
R806	40405109	R,METAL 2.2H 5% 1/4W
R8103	40371139	R,METAL 39H 5% 1W
R8111	401H5661	R,CARBON 330H 5% 1/2W
R8112	40224189	R,WIRE 4.7K 5% 5W
R8113	40224191	R,WIRE 5.6K 5% 5W
R8114	40224192	R,WIRE 6.2K 5% 5W
R8115	40224285	R,WIRE 3.3K 5% 7W
R8116	40224285	R,WIRE 3.3K 5% 7W
R8117	40224285	R,WIRE 3.3K 5% 7W
R8122	40371139	R,METAL 39H 5% 1W
R8130	401H5661	R,CARBON 330H 5% 1/2W
R8131	40224189	R,WIRE 4.7K 5% 5W
R8132	40224191	R,WIRE 5.6K 5% 5W
R8133	40224192	R,WIRE 6.2K 5% 5W
R8134	40224285	R,WIRE 3.3K 5% 7W
R8135	40224285	R,WIRE 3.3K 5% 7W
R8136	40224285	R,WIRE 3.3K 5% 7W
R8141	40371139	R,METAL 39H 5% 1W
R8149	401H5661	R,CARBON 330H 5% 1/2W
R8150	40224189	R,WIRE 4.7K 5% 5W
R8151	40224191	R,WIRE 5.6K 5% 5W
R8152	40224192	R,WIRE 6.2K 5% 5W
R8153	40224285	R,WIRE 3.3K 5% 7W
R8154	40224285	R,WIRE 3.3K 5% 7W
R8155	40224285	R,WIRE 3.3K 5% 7W
R863	40405125	R,METAL 10H 5% 1/4W
R865	40405109	R,METAL 2.2H 5% 1/4W
R901	401H5649	R,CARBON 100H 5% 1/2W
R902	401H5673	R,CARBON 1.0K 5% 1/2W
R903	401H5649	R,CARBON 100H 5% 1/2W
R904	401H5673	R,CARBON 1.0K 5% 1/2W
R905	401H5649	R,CARBON 100H 5% 1/2W
R906	401H5673	R,CARBON 1.0K 5% 1/2W
R907	401H5673	R,CARBON 1.0K 5% 1/2W
R908	401H5721	R,CARBON 100K 5% 1/2W

SYMBOL	PARTS NO	DESCRIPTION
R5583	401K5649	R,CARBON 100H 5% 1/6W
R5584	401K5649	R,CARBON 100H 5% 1/6W
R5585	401K5649	R,CARBON 100H 5% 1/6W
R5586	401K5649	R,CARBON 100H 5% 1/6W
R5587	401K5649	R,CARBON 100H 5% 1/6W
R5588	401K5683	R,CARBON 2.7K 5% 1/6W
R5589	401K5649	R,CARBON 100H 5% 1/6W
R5590	401G6137	R,CARBON 33H 5% 1/4W
R5591	401K5713	R,CARBON 47K 5% 1/6W
R5592	401K5713	R,CARBON 47K 5% 1/6W
R5593	401K5713	R,CARBON 47K 5% 1/6W
R5594	401K5713	R,CARBON 47K 5% 1/6W
R5596	401G6109	R,CARBON 2.2H 5% 1/4W
R5597	40371155	R,METAL 180H 5% 1W
R5598	401K5633	R,CARBON 22H 5% 1/6W
R5599	401K5633	R,CARBON 22H 5% 1/6W
R5600	401K5633	R,CARBON 22H 5% 1/6W
R5604	40372137	R,METAL 33H 5% 2W
R5605	40178173	R,CARBON 1.0K 5% 1/2W
R5607	401K5625	R,CARBON 10H 5% 1/6W
R5608	401K5625	R,CARBON 10H 5% 1/6W
R5609	401C6679	R,CARBON 1.8K 5% 1/4W
R5610	404C1707	R,METAL 27K 1% 1/6W
R5618	40373333	R,METAL 0.33H 5% 3W
R5640	401K5743	R,CARBON 820K 5% 1/6W
R5641	401K5743	R,CARBON 820K 5% 1/6W
R5642	401K5743	R,CARBON 820K 5% 1/6W
R5643	401K5743	R,CARBON 820K 5% 1/6W
R5644	401K5743	R,CARBON 820K 5% 1/6W
R5645	401K5743	R,CARBON 820K 5% 1/6W
R5646	401K5743	R,CARBON 820K 5% 1/6W
R7308B	401K5690	R,CARBON 5.1K 5% 1/6W
R7310	40371155	R,METAL 180H 5% 1W
R7340	40372143	R,METAL 56H 5% 2W
R7341	40372143	R,METAL 56H 5% 2W
R7342	40372131	R,METAL 18H 5% 2W
R7343	40372131	R,METAL 18H 5% 2W
R7506	40405109	R,METAL 2.2H 5% 1/4W
R769	40371117	R,METAL 4.7H 5% 1W
R8004	40372135	R,METAL 27H 5% 2W

SYMBOL	PARTS NO	DESCRIPTION
R1301	40AA2005	R,CHIP 2.2H 5% 1/4W
R1302	40AA2133	R,CHIP 22H 5% 1/4E
R8107		
R8127		
R8108		
R8145		
R8126		
R8146		
R8169	40AA2153	R,CHIP 150H 5% 1/4W
R8171		
R8173		
R8059	40AA2161	R,CHIP 330H 5% 1/4W
R885		
R8061		
R886		
R8063		
R887		
R1127	40AA2165	R,CHIP 470H 5% 1/4W
R1128		
R1261	40AA2189	R,CHIP 4.7K 5% 1/4W
R763		
R764	40AA2197	R,CHIP 10K 5% 1/4W
R1027	40AA3000	R,CHIP 0.0H 5% 1/10W
R1030		
R1042		
R1086		
R1111		
R1420		
R7512		
R754		
R8170		
R1028		
R1040		
R1043		
R1087		
R1151		
R739		
R7513		
R8015		
R1029		
R1041		
R1085		
R1088		
R1264		
R745		
R753		
R8087		

SYMBOL	PARTS NO	DESCRIPTION
R7424 R844 R838 R841 R7209 R7250 R7333 R757 R8104 R8205 R7256 R7325 R7468 R758 R8123 R8206 R7257 R7329 R7469 R760 R8142 R8207 R831 R859 R883 R896 R832 R860 R884 R897 R833 R861 R895 R898 R7242 R7437 R893 R894	40AA3125 ↓ 40AA3133 ↓ 40AA3133 ↓ 40AA3143 40AA3146	R.CHIP 10H 5% 1/10W ↓ R.CHIP 22H 5% 1/10W ↓ R.CHIP 22H 5% 1/10W ↓ R.CHIP 56H 5% 1/10W R.CHIP 75H 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R7505 R7515 R7518 R7520 R7523 R8001 R8047 R809 R8124 R847 R854 R858 R901 R1084 R1095 R1100 R1107 R1113 R1116 R1120 R1137 R1141 R7207 R7255 R7304 R7339 R7418 R7441 R7452 R7464 R750 R751 R7516 R7519 R7521 R765 R8013 R8049 R8105 R8143 R850 R856 R899	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1080 R1093 R1096 R1101 R1108 R1114 R1118 R1121 R1138 R1410 R7231 R7258 R7305 R7401 R7436 R7442 R7456 R7466 R7504 R7514 R7517 R752 R7522 R766 R804 R8052 R812 R815 R853 R857 R900 R1082 R1094 R1099 R1102 R1112 R1115 R1119 R1136 R1139 R1411 R7254 R7259 R7336 R7414 R7440 R7443 R7460 R749	40AA3149 ↓	R.CHIP 100H 5% 1/10W ↓

SYMBOL	PARTS NO	DESCRIPTION
R734 R740 R736 R742 R738 R744 R8193 R8194 R8195 R7223 R8144 R8204 R8106 R8202 R8125 R8203 R8098 R7228 R7272 R7269 R7404 R7271 R7234 R8058 R8198 R7411 R8196 R855 R8031 R8197 R7232 R7326 R7331 R7462 R759 R7322 R7327 R7406 R755 R8044 R7323 R7330 R7454 R756 R7425 R874 R7224 R8064 R8060 R8062	40AA3153 ↓ 40AA3155 ↓ 40AA3157 ↓ 40AA3159 40AA3161 ↓ 40AA3165 ↓ 40AA3167 ↓ 40AA3169 ↓ 40AA3171	R.CHIP 150H 5% 1/10W ↓ R.CHIP 180H 5% 1/10W ↓ R.CHIP 220H 5% 1/10W ↓ R.CHIP 270H 5% 1/10W R.CHIP 330H 5% 1/10W ↓ R.CHIP 470H 5% 1/10W ↓ R.CHIP 560H 5% 1/10W ↓ R.CHIP 680H 5% 1/10W ↓ R.CHIP 820H 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R8048	40AA3172	R,CHIP 910H 5% 1/10W
R8051	↓	↓
R8057	40AA3173	R,CHIP 1.0K 5% 1/10W
R1083	↓	↓
R1091	↓	↓
R1104	↓	↓
R1109	↓	↓
R1122	↓	↓
R1129	↓	↓
R1132	↓	↓
R1135	↓	↓
R1185	↓	↓
R1223	↓	↓
R1245	↓	↓
R7206	↓	↓
R7247	↓	↓
R7270	↓	↓
R7286	↓	↓
R7314	↓	↓
R7328	↓	↓
R737	↓	↓
R741	↓	↓
R743	↓	↓
R747	↓	↓
R7510	↓	↓
R1089	↓	↓
R1092	↓	↓
R1105	↓	↓
R1110	↓	↓
R1124	↓	↓
R1130	↓	↓
R1133	↓	↓
R1142	↓	↓
R1186	↓	↓
R1225	↓	↓
R7204	↓	↓
R7235	↓	↓
R7266	↓	↓
R7273	↓	↓
R7287	↓	↓
R7319	↓	↓
R7332	↓	↓
R7407	↓	↓
R7413	↓	↓
R7431	↓	↓
R748	↓	↓
R779	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1263	40AA3181	R,CHIP 2.2K 5% 1/10W
R7309	↓	↓
R1265	40AA3183	R,CHIP 2.7K 5% 1/10W
R8086	↓	↓
R1403	40AA3185	R,CHIP 3.3K 5% 1/10W
R8159	↓	↓
R1303	↓	↓
R1305	↓	↓
R7276	↓	↓
R1202	↓	↓
R7426	↓	↓
R7465	↓	↓
R7559	↓	↓
R8020	↓	↓
R851	↓	↓
R877	↓	↓
R880	↓	↓
R1208	↓	↓
R7451	↓	↓
R7470	↓	↓
R8018	↓	↓
R845	↓	↓
R872	↓	↓
R878	↓	↓
R1288	↓	↓
R7457	↓	↓
R7472	↓	↓
R8019	↓	↓
R848	↓	↓
R875	↓	↓
R879	↓	↓
R1230	40AA3187	R,CHIP 3.9K 5% 1/10W
R8069	↓	↓
R8096	↓	↓
R1304	↓	↓
R8072	↓	↓
R8066	↓	↓
R8084	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1090	↓	↓
R1103	↓	↓
R1106	↓	↓
R1117	↓	↓
R1125	↓	↓
R1131	↓	↓
R1134	↓	↓
R1184	↓	↓
R1219	↓	↓
R1238	↓	↓
R7205	↓	↓
R7236	↓	↓
R7267	↓	↓
R7285	↓	↓
R7288	↓	↓
R7324	↓	↓
R735	↓	↓
R7409	↓	↓
R7428	↓	↓
R746	↓	↓
R7509	↓	↓
R8021	40AA3173	R,CHIP 1.0K 5% 1/10W
R8039	↓	↓
R8082	↓	↓
R870	↓	↓
R8045	↓	↓
R8186	↓	↓
R8081	↓	↓
R867	↓	↓
R1215	40AA3175	R,CHIP 1.2K 5% 1/10W
R7429	40AA3177	R,CHIP 1.5K 5% 1/10W
R876	↓	↓
R7471	↓	↓
R873	↓	↓
R1173	40AA3179	R,CHIP 1.8K 5% 1/10W
R1249	↓	↓
R1174	↓	↓
R7335	↓	↓
R1175	↓	↓
R7338	↓	↓
R7241	40AA3180	R,CHIP 2.0K 5% 1/10W
R7290	↓	↓
R7293	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1267	40AA3189	R,CHIP 4.7K 5% 1/10W
R7289	↓	↓
R7316	↓	↓
R8038	↓	↓
R811	↓	↓
R840	↓	↓
R866	↓	↓
R1415	↓	↓
R7291	↓	↓
R8002	↓	↓
R808	↓	↓
R814	↓	↓
R843	↓	↓
R1433	↓	↓
R7307	↓	↓
R8024	↓	↓
R8083	↓	↓
R837	↓	↓
R864	↓	↓
R7238	40AA3190	R,CHIP 5.1K 5% 1/10W
R7308	↓	↓
R7246	↓	↓
R7280	40AA3191	R,CHIP 5.6K 5% 1/10W
R1177	↓	↓
R7337	↓	↓
R7455	↓	↓
R8070	↓	↓
R8178	↓	↓
R834	↓	↓
R7313	↓	↓
R7427	↓	↓
R7463	↓	↓
R8073	↓	↓
R8180	↓	↓
R7334	↓	↓
R7435	↓	↓
R8067	↓	↓
R8176	↓	↓
R820	↓	↓
R1203	40AA3193	R,CHIP 6.8K 5% 1/10W
R1407	↓	↓
R7410	↓	↓
R8079	40AA3193	R,CHIP 6.8K 5% 1/10W



SYMBOL	PARTS NO	DESCRIPTION
R1228 R7403 R8043 R7230 R7415 R7296 R8034 R1008 R1018 R1025 R1200 R1209 R1226 R1257 R1260 R1293 R1402 R1418 R7208 R7250 R7265 R7302 R7315 R7402 R7417 R7423 R8017 R807 R8095 R813 R8162 R8174 R842 R852 R869 R888 R1016 R1019 R1081 R1204 R1216 R1229 R1258 R1290 R1297	40AA3195  40AA3197	R.CHIP 8.2K 5% 1/10W  R.CHIP 10K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1189 R7430 R8012 R8093 R8179 R1416 R8010 R8091 R8175 R1419 R8011 R8092 R8177 R1180 R7408 R1227 R8003 R1405 R8006 R8056 R1247 R1140 R1179 R1271 R1274 R1277 R1281 R1285 R1307 R1435 R1145 R1262 R1272 R1275 R1279 R1282 R1286 R1310 R1436 R1147 R1270 R1273 R1276 R1280 R1284 R1287 R1412 R7511	40AA3199  40AA3201  40AA3201 40AA3203 40AA3205	R.CHIP 12K 5% 1/10W  R.CHIP 15K 5% 1/10W  R.CHIP 15K 5% 1/10W R.CHIP 18K 5% 1/10W R.CHIP 22K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1413 R1431 R7229 R7253 R7268 R7303 R7317 R7405 R7419 R7508 R8032 R8090 R8097 R8158 R8168 R836 R846 R862 R881 R889 R1017 R1024 R1183 R1206 R1224 R1256 R1259 R1291 R1401 R1417 R705 R7237 R7264 R7301 R7306 R7318 R7416 R7422 R778 R8033 R8094 R810 R8160 R8172 R839 R849 R868 R882 R890		

SYMBOL	PARTS NO	DESCRIPTION
R1437 R8040 R7279 R891 R8016 R1409 R8042 R1425 R8085 R8014 R1432 R1438 R8080 R1001 R1004 R1011 R1015 R1022 R1182 R1311 R1002 R1005 R1012 R1020 R1023 R1201 R8041 R1003 R1009 R1013 R1021 R1181 R1289 R892 R1153 R8068 R8129 R1154 R8071 R8148 R8065 R8110 R1251 R1253 R7507 R8054	40AA3207  40AA3209 40AA3211 40AA3213  40AA3215  40AA3219 40AA3221 40AA3225	R.CHIP 27K 5% 1/10W  R.CHIP 33K 5% 1/10W R.CHIP 39K 5% 1/10W R.CHIP 47K 5% 1/10W  R.CHIP 56K 5% 1/10W  R.CHIP 82K 5% 1/10W R.CHIP 100K 5% 1/10W R.CHIP 150K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R704 R719 R730 R733 R762 R816 R819 R826 R835 R706 R720 R731 R7433 R767 R817 R822 R828 R707 R721 R732 R761 R768 R818 R824 R830 R8109 R8128 R8147 R7283 R7432 R1232 R7274 R7278 R7275 R7277 R801 R821 R827 R802 R823 R829 R803 R825	40AA3229 ↓ 40AA3233 ↓ 40AA3243 ↓ 40AA3245 40AA3257 ↓ 40AB2146 ↓	R.CHIP 220K 5% 1/10W ↓ R.CHIP 330K 5% 1/10W ↓ R.CHIP 820K 5% 1/10W ↓ R.CHIP 1.0M 5% 1/10W R.CHIP 3.3M 5% 1/10W ↓ R.CHIP 75H 1% 1/4W ↓

SYMBOL	PARTS NO	DESCRIPTION
R1408 R1235 R1232 R7312 R1241 R1242 R1250 R1252 R7311 R1213 R1155	40AB3199 40AB3201 40AB3203 ↓ 40AB3205 ↓ 40AB3209 40AB3211 40AB3217 40AB3220 40AB3231	R.CHIP 12K 1% 1/10W R.CHIP 15K 1% 1/10W R.CHIP 18K 1% 1/10W ↓ R.CHIP 22K 1% 1/10W ↓ R.CHIP 33K 1% 1/10W R.CHIP 39K 1% 1/10W R.CHIP 68K 1% 1/10W R.CHIP 91K 1% 1/10W R.CHIP 270K 1% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R701 R716 R702 R717 R703 R718 R7450 R7458 R7240 R7239 R7244 R7243 R7434 R1212 R8046 R8050 R8053 R1246 R7248 R7251 R7225 R7439 R7249 R7446 R7252 R7226 R7467 R7448 R7449 R8023 R7445 R7447 R1222 R1233 R7281 R8199 R8200 R8201 R7438 R1152 R1292 R1237 R1217 R1218 R1266	40AB3146 ↓ 40AB3157 40AB3159 40AB3165 40AB3167 40AB3170 40AB3172 ↓ 40AB3173 ↓ 40AB3175 ↓ 40AB3177 ↓ 40AB3181 40AB3185 40AB3187 40AB3188 ↓ 40AB3189 40AB3191 40AB3193 40AB3195 40AB3197	R.CHIP 75H 1% 1/10W ↓ R.CHIP 220H 1% 1/10W R.CHIP 270H 1% 1/10W R.CHIP 470H 1% 1/10W R.CHIP 560H 1% 1/10W R.CHIP 750H 1% 1/10W R.CHIP 910H 1% 1/10W ↓ R.CHIP 1.0K 1% 1/10W ↓ R.CHIP 1.2K 1% 1/10W ↓ R.CHIP 1.5K 1% 1/10W ↓ R.CHIP 2.2K 1% 1/10W R.CHIP 3.3K 1% 1/10W R.CHIP 3.9K 1% 1/10W R.CHIP 4.3K 1% 1/10W ↓ R.CHIP 4.7K 1% 1/10W R.CHIP 5.6K 1% 1/10W R.CHIP 6.8K 1% 1/10W R.CHIP 8.2K 1% 1/10W R.CHIP 10K 1% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
*** CAPACITORS ***		
C1003 C1004 C1005 C1007 C1008	42AA2726 42CA1416 42CA1416 42AA2726 430B9032	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 10PF C.CERAMIC 50V 10PF C.CERAMIC 50V 0.01UF C.ELEC 16V 470UF
C1009 C101 C1010 C1011 C1012	42AA2726 430C0047 42AA2726 42AA2726 42AA2726	C.CERAMIC 50V 0.01UF C.ELEC 16V 47UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF
C1013 C1014 C1020 C1021 C1023	42AA2726 42CA1432 42CA1416 42CA1416 42AA2726	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 47PF C.CERAMIC 50V 10PF C.CERAMIC 50V 10PF C.CERAMIC 50V 0.01UF
C1024 C1025 C1026 C1027 C1028	42AA2726 42AA2726 42AA2726 430B9025 430B9025	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.ELEC 16V 10UF C.ELEC 16V 10UF
C1029 C1030 C1031 C1032 C1050	430B9025 430B9025 42AA2726 42AA2726 42AA2726	C.ELEC 16V 10UF C.ELEC 16V 10UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF
C1051 C1053 C1054 C1059 C1060	42AA2726 42CA1432 42CA1432 42CA1432 42CA1432	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF
C1061 C1062 C1063 C1064 C1065	42CA1432 42CA1432 42CA1432 42CA1432 42CA1432	C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF
C1066 C1067 C1068	42CA1432 42CA1432 42CA1432	C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF

SYMBOL	PARTS NO	DESCRIPTION
C1071	42CA1432	C.CERAMIC 50V 47PF
C1072	42CA1432	C.CERAMIC 50V 47PF
C1073	42CA1432	C.CERAMIC 50V 47PF
C1074	42CA1432	C.CERAMIC 50V 47PF
C1075	42AA2726	C.CERAMIC 50V 0.01UF
C1076	42AA2726	C.CERAMIC 50V 0.01UF
C1077	42AA2726	C.CERAMIC 50V 0.01UF
C1078	42AA2726	C.CERAMIC 50V 0.01UF
C1079	42CA1432	C.CERAMIC 50V 47PF
C1080	42CA1432	C.CERAMIC 50V 47PF
C1081	42AA2726	C.CERAMIC 50V 0.01UF
C1082	42AA2726	C.CERAMIC 50V 0.01UF
C1083	42AA2726	C.CERAMIC 50V 0.01UF
C1086	42CA1432	C.CERAMIC 50V 47PF
C1087	42CA1432	C.CERAMIC 50V 47PF
C1088	42CA1432	C.CERAMIC 50V 47PF
C1089	42CA1432	C.CERAMIC 50V 47PF
C1090	42CA1432	C.CERAMIC 50V 47PF
C1091	42CA1432	C.CERAMIC 50V 47PF
C1092	42CA1432	C.CERAMIC 50V 47PF
C1093	42CA1432	C.CERAMIC 50V 47PF
C1094	42CA1432	C.CERAMIC 50V 47PF
C1095	42CA1432	C.CERAMIC 50V 47PF
C1097	430C0244	C.ELEC 16V 47UF
C1099	42AA2726	C.CERAMIC 50V 0.01UF
C1100	42CA1432	C.CERAMIC 50V 47PF
C1101	42CA1432	C.CERAMIC 50V 47PF
C1102	42CA1432	C.CERAMIC 50V 47PF
C1103	42CA1432	C.CERAMIC 50V 47PF
C1104	42CA1432	C.CERAMIC 50V 47PF
C1105	42CA1432	C.CERAMIC 50V 47PF
C1106	42CA1432	C.CERAMIC 50V 47PF
C1107	42CA1432	C.CERAMIC 50V 47PF
C1108	42CA1432	C.CERAMIC 50V 47PF
C1109	42CA1432	C.CERAMIC 50V 47PF
C1110	42CA1432	C.CERAMIC 50V 47PF
C1111	42CA1432	C.CERAMIC 50V 47PF
C1112	42CA1432	C.CERAMIC 50V 47PF
C1113	42CA1432	C.CERAMIC 50V 47PF

SYMBOL	PARTS NO	DESCRIPTION
C1191	427F4619	C.FILM 50V 0.033UF
C1192	428B3019	C.METAL FILM 50V 0.33UF
C1193	430B9039	C.ELEC 25V 22UF
C1194	42AA2726	C.CERAMIC 50V 0.01UF
C1195	430B9029	C.ELEC 16V 100UF
C1196	42CA1452	C.CHIP 50V 330PF
C1197	427F4601	C.FILM 50V 1000PF
C1199	428B3018	C.METAL FILM 50V 0.27UF
C1200	430B9041	C.ELEC 25V 47UF
C1201	427F4625	C.FILM 50V 0.1UF
C1203	42AA2721	C.CERAMIC 50V 0.1UF
C1204	42AA2721	C.CERAMIC 50V 0.1UF
C1205	42CA1464	C.CERAMIC 50V 1000PF
C1206	42AA2726	C.CERAMIC 50V 0.01UF
C1207	430B9042	C.ELEC 25V 100UF
C1208	42CA1456	C.CERAMIC 50V 470PF
C1209	430B9037	C.ELEC 25V 4.7UF
C1210	428B3021	C.METAL FILM 50V 0.47UF
C1211	428B3013	C.METAL FILM 50V 0.1UF
C1212	433A4059	C.ELEC 50V 10UF
C1213	428B3015	C.METAL FILM 50V 0.15UF
C1214	42AA2721	C.CERAMIC 50V 0.1UF
C1215	433A7045	C.ELEC 50V 4.7UF
C1218	430B9053	C.ELEC 35V 47UF
C1225	430B9032	C.ELEC 16V 470UF
C1230	42CA1438	C.CERAMIC 50V 82PF
C1301	430B9032	C.ELEC 16V 470UF
C1302	430B9032	C.ELEC 16V 470UF
C1303	427F4675	C.FILM 50V 0.1UF
C1304	430B9054	C.ELEC 35V 100UF
C1305	430B9053	C.ELEC 35V 47UF
C1306	427F4675	C.FILM 50V 0.1UF
C1307	433A7045	C.ELEC 50V 4.7UF
C1308	430B9053	C.ELEC 35V 47UF
C1309	433A7045	C.ELEC 50V 4.7UF
C1310	427F4609	C.FILM 50V 4700PF
C1311	427F4609	C.FILM 50V 4700PF
C1312	433A7045	C.ELEC 50V 4.7UF
C1313	433A7045	C.ELEC 50V 4.7UF
C1314	430B9037	C.ELEC 25V 4.7UF

SYMBOL	PARTS NO	DESCRIPTION
C1114	42CA1432	C.CERAMIC 50V 47PF
C1115	42CA1432	C.CERAMIC 50V 47PF
C1139	430B9029	C.ELEC 16V 100UF
C1140	430B9045	C.ELEC 25V 470UF
C1141	430B9045	C.ELEC 25V 470UF
C1142	430B9045	C.ELEC 25V 470UF
C1145	430B9057	C.ELEC 35V 470UF
C1146	42AA2726	C.CERAMIC 50V 0.01UF
C1147	430B9045	C.ELEC 25V 470UF
C1148	430B9057	C.ELEC 35V 470UF
C1149	42AA2726	C.CERAMIC 50V 0.01UF
C1150	42AA2726	C.CERAMIC 50V 0.01UF
C1151	430B9054	C.ELEC 35V 100UF
C1152	430B9045	C.ELEC 25V 470UF
C1153	42AA2726	C.CERAMIC 50V 0.01UF
C1154	430B9042	C.ELEC 25V 100UF
C1155	42AA2726	C.CERAMIC 50V 0.01UF
C1157	430B9032	C.ELEC 16V 470UF
C1158	42AA2726	C.CERAMIC 50V 0.01UF
C1159	430B9042	C.ELEC 25V 100UF
C1160	42AA2726	C.CERAMIC 50V 0.01UF
C1161	430B9029	C.ELEC 16V 100UF
C1162	42AA2726	C.CERAMIC 50V 0.01UF
C1163	42CA1432	C.CERAMIC 50V 47PF
C1164	42CA1432	C.CERAMIC 50V 47PF
C1165	42CA1432	C.CERAMIC 50V 47PF
C1166	42AA2726	C.CERAMIC 50V 0.01UF
C1167	430C0244	C.ELEC 16V 47UF
C1180	430B9062	C.ELEC 50V 2.2UF
C1181	430B9062	C.ELEC 50V 2.2UF
C1182	430B9062	C.ELEC 50V 2.2UF
C1183	42CA1464	C.CERAMIC 50V 1000PF
C1184	42CA1464	C.CERAMIC 50V 1000PF
C1185	430B9038	C.ELEC 25V 10UF
C1186	42AA2726	C.CERAMIC 50V 0.01UF
C1187	427F4611	C.FILM 50V 6800PF
C1188	430B9038	C.ELEC 25V 10UF
C1189	42AA2721	C.CERAMIC 50V 0.1UF
C1190	427F4611	C.FILM 50V 6800PF

SYMBOL	PARTS NO	DESCRIPTION
C1315	42AA2721	C.CERAMIC 50V 0.1UF
C1316	430B9025	C.ELEC 16V 10UF
C1317	43026181	C.ELEC 35V 4700UF
C1318	42AA2726	C.CERAMIC 50V 0.01UF
C1319	430CF540	C.ELEC 16C 2200UF
C1322	430C0244	C.ELEC 16V 47UF
C1402	430B9039	C.ELEC 25V 22UF
C1406	430B9536	C.ELEC 200V 10UF
C1407	42AA2726	C.CERAMIC 50V 0.01UF
C1408	430B9057	C.ELEC 35V 470UF
C1409	42AA2726	C.CERAMIC 50V 0.01UF
C1410	430B9057	C.ELEC 35V 470UF
C1412	4320E402	C.ELEC 200V 10UF
C1413	42703451	C.FILM 630V 1000PF
C1414	42703451	C.FILM 630V 1000PF
C2001	430B9038	C.ELEC 25V 10UF
C2003	430B9068	C.ELEC 50V 47UF
C2004	430B9039	C.ELEC 25V 22UF
C5001	4303J224	C.ELEC 250V 4.7UF
C5003	42839022	C.METAL FILM 250V 0.1UF
C5004	430B9041	C.ELEC 25V 47UF
C5005	430B9552	C.ELEC 250V 1.0UF
C5006	42703451	C.FILM 630V 1000PF
C5007	423A1076	C.CERAMIC 50V 390PF
C5009	4309J183	C.ELEC 250V 10UF
C5010	430B9062	C.ELEC 50V 2.2UF
C5013	430B9042	C.ELEC 25V 100UF
C5014	421A0425	C.CERAMIC 50V 0.01UF
C5015	430B9041	C.ELEC 25V 47UF
C5016	421A0425	C.CERAMIC 50V 0.01UF
C5017	421D6009	C.CERAMIC 25V 0.1UF
C5018	421D6009	C.CERAMIC 25V 0.1UF
C5019	421A0425	C.CERAMIC 50V 0.01UF
C5020	421D6009	C.CERAMIC 25V 0.1UF
C5022	430B9041	C.ELEC 25V 47UF
C5023	421A0425	C.CERAMIC 50V 0.01UF
C5024	421D6009	C.CERAMIC 25V 0.1UF
C5025	421A0425	C.CERAMIC 50V 0.01UF
C5026	423A2045	C.CERAMIC 50V 100PF
C5027	421D6009	C.CERAMIC 25V 0.1UF

SYMBOL	PARTS NO	DESCRIPTION
C5029	4320E403	C,ELEC 200V 100UF
C5030	42839022	C,METAL FILM 250V 0.1UF
C5031	430B9028	C,ELEC 16V 47UF
C5032	42807507	C,FILM 1.6KV 1800PF
C5033	42703458	C,FILM 630V 3900PF
C5036	421A0425	C,CERAMIC 50V 0.01UF
C5037	421A0425	C,CERAMIC 50V 0.01UF
C5038	433A7021	C,ELEC 25V 10UF
C5039	421A0425	C,CERAMIC 50V 0.01UF
C5040	430B9061	C,ELEC 50V 1.0UF
C5041	423A2045	C,CERAMIC 50V 100PF
C5042	423A2045	C,CERAMIC 50V 100PF
C5043	430B9041	C,ELEC 25V 47UF
C5044	421D6009	C,CERAMIC 25V 0.1UF
C5045	430BJ558	C,ELEC 250V 330UF
C5046	428D5093	C,METAL 250V 0.1UF
C5048	430BJ558	C,ELEC 250V 330UF
C5050	4303J214	C,ELEC 200V 4.7UF
C5051	42074713	C,CERAMIC 2.0KV 1000PF
C5052	42074713	C,CERAMIC 2.0KV 1000PF
C5053	430B9025	C,ELEC 16V 10UF
C5054	430B9556	C,ELEC 250V 10UF
C5055	430B9536	C,ELEC 200V 10UF
C5057	42703451	C,FILM 630V 1000PF
C5058	421D6013	C,CERAMIC 50V 0.1UF
C5059	427F4667	C,FILM 50V 0.022UF
C5080	4303J214	C,ELEC 200V 4.7UF
C5081	430B9061	C,ELEC 50V 1.0UF
C5062	4309J183	C,ELEC 250V 10UF
C5063	4309J183	C,ELEC 250V 10UF
C5064	420C9563	C,CERAMIC 500V 1000PF
C5065	430B9041	C,ELEC 25V 47UF
C5066	421D6009	C,CERAMIC 25V 0.1UF
C5501	42817255	C,METAL 2KV 6800PF
C5502	42817255	C,METAL 2KV 6800PF
C5503	42807541	C,FILM 1.6K 0.043UF
C5507	42808501	C,METAL FILM 1.6KV 1000PF
C5507B	42703455	C,FILM 630V 2200PF
C5508	42703567	C,FILM 200V 0.022UF
C5509	42840149	C,METAL 250V 2.2UF 5%

SYMBOL	PARTS NO	DESCRIPTION
C5561	421D6009	C,CERAMIC 25V 0.1UF
C5562	430B9029	C,ELEC 16V 100UF
C5565	430B9041	C,ELEC 25V 47UF
C5566	421D6009	C,CERAMIC 25V 0.1UF
C5567	430B9041	C,ELEC 25V 47UF
C5571	427F4629	C,FILM 50V 0.22UF
C5572	427F4629	C,FILM 50V 0.22UF
C5573	427F4629	C,FILM 50V 0.22UF
C5574	427F4629	C,FILM 50V 0.22UF
C5575	430B9041	C,ELEC 25V 47UF
C5576	421D6009	C,CERAMIC 25V 0.1UF
C5577	430B9028	C,ELEC 16V 47UF
C701	43KB7515	C,ELEC 16V 10UF
C702	43KB7515	C,ELEC 16V 10UF
C703	43KB7515	C,ELEC 16V 10UF
C706	43KB7538	C,ELEC 16V 100UF
C707	42AA2721	C,CERAMIC 50V 0.1UF
C708	43KB7515	C,ELEC 16V 10UF
C709	43KB7515	C,ELEC 16V 10UF
C711	43KB7515	C,ELEC 16V 10UF
C713	43KB7533	C,ELEC 50V 2.2UF
C714	43KB7533	C,ELEC 50V 2.2UF
C715	43KB7533	C,ELEC 50V 2.2UF
C716	43KB7533	C,ELEC 50V 2.2UF
C717	43KB7533	C,ELEC 50V 2.2UF
C718	43KB7533	C,ELEC 50V 2.2UF
C719	42CA1464	C,CERAMIC 50V 1000PF
C7207	43KB7441	C,ELEC CHIP 16V 10UF
C7208	43KB7444	C,ELEC CHIP 16V 47UF
C7209	43KB7444	C,ELEC CHIP 16V 47UF
C7210	42AA2721	C,CERAMIC 50V 0.1UF
C722	42CA1464	C,CERAMIC 50V 1000PF
C7226	42CA1434	C,CERAMIC 50V 56PF
C7227	42CA1428	C,CERAMIC 50V 33PF
C7228	42CA1420	C,CERAMIC 50V 15PF
C7229	42CA1420	C,CERAMIC 50V 15PF
C723	42CA1464	C,CERAMIC 50V 1000PF
C7230	42AA2726	C,CERAMIC 50V 0.01UF
C7231	43KB7518	C,ELEC 16V 47UF
C7232	42CA1440	C,CERAMIC 50V 100PF

SYMBOL	PARTS NO	DESCRIPTION
C5510	42839022	C,METAL FILM 250V 0.1UF
C5511	42839022	C,METAL FILM 250V 0.1UF
C5512	430B9041	C,ELEC 25V 47UF
C5513	421D6009	C,CERAMIC 25V 0.1UF
C5514	427J9057	C,FILM 100V 3300PF
C5515	430B9556	C,ELEC 250V 10UF
C5518	427F4607	C,FILM 50V 3300PF
C5519	427F4607	C,FILM 50V 3300PF
C5521	42816373	C,FILM 250V 4.7UF 5%
C5522	427F4609	C,FILM 50V 4700PF
C5524	430B9062	C,ELEC 50V 2.2UF
C5525	430B9069	C,ELEC 50V 100UF
C5526	430B9069	C,ELEC 50V 100UF
C5527	433A6079	C,ELEC 50V 2.2UF
C5528	42074709	C,CERAMIC 2.0KV 470PF
C5529	42839702	C,METAL 400V 0.12UF
C5530	42839702	C,METAL 400V 0.12UF
C5531	42839702	C,METAL 400V 0.12UF
C5532	42839702	C,METAL 400V 0.12UF
C5533	42837103	C,METAL FILM 400V 0.056
C5533B	42837103	C,METAL FILM 400V 0.056
C5535	42837103	C,METAL FILM 400V 0.056
C5537	42839702	C,METAL 400V 0.12UF
C5539	42837123	C,METAL FILM 400V 0.39
C5541	42839707	C,METAL 400V 0.27UF 5%
C5543	42839637	C,METAL 400V 0.3UF
C5546	42816371	C,FILM 250V 3.3UF 5%
C5547	421D6009	C,CERAMIC 25V 0.1UF
C5548	421D6009	C,CERAMIC 25V 0.1UF
C5549	421D6009	C,CERAMIC 25V 0.1UF
C5550	421D6009	C,CERAMIC 25V 0.1UF
C5551	421D6009	C,CERAMIC 25V 0.1UF
C5552	421D6009	C,CERAMIC 25V 0.1UF
C5553	421D6009	C,CERAMIC 25V 0.1UF
C5554	421D6009	C,CERAMIC 25V 0.1UF
C5556	421D6009	C,CERAMIC 25V 0.1UF
C5557	430B9029	C,ELEC 16V 100UF
C5558	421D6009	C,CERAMIC 25V 0.1UF
C5559	430B9041	C,ELEC 25V 47UF
C5560	421D6009	C,CERAMIC 25V 0.1UF

SYMBOL	PARTS NO	DESCRIPTION
C7233	42AA2721	C,CERAMIC 50V 0.1UF
C7234	42AA2721	C,CERAMIC 50V 0.1UF
C7235	43KB7441	C,ELEC CHIP 16V 10UF
C7236	43KB7518	C,ELEC 16V 47UF
C7237	43KB7518	C,ELEC 16V 47UF
C7239	42AA2721	C,CERAMIC 50V 0.1UF
C724	42CA1464	C,CERAMIC 50V 1000PF
C7240	43KB7441	C,ELEC CHIP 16V 10UF
C7241	42AA2721	C,CERAMIC 50V 0.1UF
C7242	42AA2721	C,CERAMIC 50V 0.1UF
C7249	43KB7518	C,ELEC 16V 47UF
C725	43KB7476	C,ELEC CHIP 50V 2.2UF
C7250	43KB7452	C,ELEC CHIP 25V 33UF
C7251	42AA2721	C,CERAMIC 50V 0.1UF
C7252	42AA2721	C,CERAMIC 50V 0.1UF
C7253	42AA2721	C,CERAMIC 50V 0.1UF
C7254	42AA2721	C,CERAMIC 50V 0.1UF
C7255	42AA2721	C,CERAMIC 50V 0.1UF
C7256	43KB7441	C,ELEC CHIP 16V 10UF
C7257	42AA2721	C,CERAMIC 50V 0.1UF
C7258	42AA2746	C,CERAMIC 25V 0.22UF
C7259	43KB7474	C,ELEC CHIP 50V 0.47UF
C7260	430B9041	C,ELEC 25V 47UF
C7261	42AA2721	C,CERAMIC 50V 0.1UF
C7262	43KB7474	C,ELEC CHIP 50V 0.47UF
C7263	42AA2721	C,CERAMIC 50V 0.1UF
C7264	42AA1521	C,CHIP CERAMIC 50V 0.01UF
C7265	42AA2746	C,CERAMIC 25V 0.22UF
C7266	42AA2746	C,CERAMIC 25V 0.22UF
C7267	43KB7441	C,ELEC CHIP 16V 10UF
C7268	43KB7474	C,ELEC CHIP 50V 0.47UF
C7269	43KB7474	C,ELEC CHIP 50V 0.47UF
C7270	42CA1440	C,CERAMIC 50V 100PF
C7271	42AA2721	C,CERAMIC 50V 0.1UF
C7272	42AA2721	C,CERAMIC 50V 0.1UF
C7273	42AA2721	C,CERAMIC 50V 0.1UF
C7274	42AA2721	C,CERAMIC 50V 0.1UF
C7275	42AA1521	C,CHIP CERAMIC 50V 0.01UF
C7276	42AA1521	C,CHIP CERAMIC 50V 0.01UF
C7277	42CA1430	C,CERAMIC 50V 39PF

SYMBOL	PARTS NO	DESCRIPTION
C7278	42CA1432	C.CERAMIC 50V 47PF
C7279	42AA2746	C.CERAMIC 25V 0.22UF
C728	42AA2721	C.CERAMIC 50V 0.1UF
C7281	42AA2746	C.CERAMIC 25V 0.22UF
C7282	42AA2746	C.CERAMIC 25V 0.22UF
C7283	43KB7452	C.ELEC CHIP 25V 33UF
C7284	42AA2721	C.CERAMIC 50V 0.1UF
C7285	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7286	42AA2721	C.CERAMIC 50V 0.1UF
C7287	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7288	42CA1418	C.CERAMIC 50V 12PF
C7289	42CA1418	C.CHIP 50V 9.0PF
C729	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7290	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7291	42AA2721	C.CERAMIC 50V 0.1UF
C7292	43KB7452	C.ELEC CHIP 25V 33UF
C7293	42AA2721	C.CERAMIC 50V 0.1UF
C7294	43KB7475	C.ELEC CHIP 50V 1.0UF
C7295	43KB7475	C.ELEC CHIP 50V 1.0UF
C7296	42AA2729	C.CERAMIC 50V 0.047UF
C7297	43KB7441	C.ELEC CHIP 16V 10UF
C7298	43KB7475	C.ELEC CHIP 50V 1.0UF
C7299	430B9032	C.ELEC 16V 470UF
C730	42CA1464	C.CERAMIC 50V 1000PF
C7300	42AA2721	C.CERAMIC 50V 0.1UF
C7301	43KB7532	C.ELEC 50V 1.0UF
C7302	42CA1440	C.CERAMIC 50V 100PF
C7303	43KB7530	C.ELEC 50V 0.33UF
C7304	42CA1440	C.CERAMIC 50V 100PF
C7305	43KB7475	C.ELEC CHIP 50V 1.0UF
C7306	43KB7475	C.ELEC CHIP 50V 1.0UF
C7307	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7308	43KB7476	C.ELEC CHIP 50V 2.2UF
C7309	42AA2721	C.CERAMIC 50V 0.1UF
C731	42CA1464	C.CERAMIC 50V 1000PF
C7310	42AA2721	C.CERAMIC 50V 0.1UF
C7311	42AA2721	C.CERAMIC 50V 0.1UF
C7312	42AA2721	C.CERAMIC 50V 0.1UF
C7313	42AA2721	C.CERAMIC 50V 0.1UF
C7314	430B9032	C.ELEC 16V 470UF

SYMBOL	PARTS NO	DESCRIPTION
C7411	42CA1464	C.CERAMIC 50V 1000PF
C7412	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7413	42CA1422	C.CERAMIC 50V 18PF
C7414	42CA1422	C.CERAMIC 50V 18PF
C7415	42AA2137	C.CERAMIC 50V 0.33UF
C7416	42AA2729	C.CERAMIC 50V 0.047UF
C7417	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7418	42AA2721	C.CERAMIC 50V 0.1UF
C7419	42AA2721	C.CERAMIC 50V 0.1UF
C7422	43KB7523	C.ELEC 25V 33UF
C7423	42AA2721	C.CERAMIC 50V 0.1UF
C7424	42AA2721	C.CERAMIC 50V 0.1UF
C7425	43KB7441	C.ELEC CHIP 16V 10UF
C7426	42AA1515	C.CHIP CERAMIC 50V 3300PF
C7427	43KB7531	C.ELEC 50V 0.47UF
C7428	42AA2721	C.CERAMIC 50V 0.1UF
C7429	42AA1523	C.CHIP CERAMIC 50V0.015UF
C7432	43KB7452	C.ELEC CHIP 25V 33UF
C7433	42CA1464	C.CERAMIC 50V 1000PF
C7434	42AA2721	C.CERAMIC 50V 0.1UF
C7435	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7436	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7437	430B9042	C.ELEC 25V 100UF
C7438	42CA1416	C.CERAMIC 50V 10PF
C7439	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7440	42AA2721	C.CERAMIC 50V 0.1UF
C7441	42AA2721	C.CERAMIC 50V 0.1UF
C7442	42AA2721	C.CERAMIC 50V 0.1UF
C7443	42AA2721	C.CERAMIC 50V 0.1UF
C7444	42AA2721	C.CERAMIC 50V 0.1UF
C7445	42AA2721	C.CERAMIC 50V 0.1UF
C7446	42AA2721	C.CERAMIC 50V 0.1UF
C7447	430B9042	C.ELEC 25V 100UF
C7449	42AA2721	C.CERAMIC 50V 0.1UF
C7451	42AA2721	C.CERAMIC 50V 0.1UF
C7452	42AA2721	C.CERAMIC 50V 0.1UF
C7453	42AA2721	C.CERAMIC 50V 0.1UF
C7501	42CA1432	C.CERAMIC 50V 47PF
C7502	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7503	43KB7523	C.ELEC 25V 33UF

SYMBOL	PARTS NO	DESCRIPTION
C7315	42AA2721	C.CERAMIC 50V 0.1UF
C7316	42AA1516	C.CHIP CERAMIC 50V 3900PF
C7317	42AA2721	C.CERAMIC 50V 0.1UF
C7318	43KB7476	C.ELEC CHIP 50V 2.2UF
C7319	43KB7475	C.ELEC CHIP 50V 1.0UF
C732	42CA1464	C.CERAMIC 50V 1000PF
C7320	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C7321	42AA2721	C.CERAMIC 50V 0.1UF
C7322	430B9032	C.ELEC 16V 470UF
C7323	43KB7441	C.ELEC CHIP 16V 10UF
C7324	43KB7441	C.ELEC CHIP 16V 10UF
C7325	42AA2721	C.CERAMIC 50V 0.1UF
C7326	42CA1440	C.CERAMIC 50V 100PF
C7327	42CA1440	C.CERAMIC 50V 100PF
C7328	42AA2721	C.CERAMIC 50V 0.1UF
C7329	43KB7538	C.ELEC 16V 100UF
C733	430B6032	C.ELEC 16V 470UF
C7330	42AA2721	C.CERAMIC 50V 0.1UF
C7331	42AA2721	C.CERAMIC 50V 0.1UF
C7332	42AA2721	C.CERAMIC 50V 0.1UF
C7333	42AA2721	C.CERAMIC 50V 0.1UF
C7334	42AA2721	C.CERAMIC 50V 0.1UF
C7335	42AA2721	C.CERAMIC 50V 0.1UF
C7336	430B9029	C.ELEC 16V 100UF
C7337	42AA2721	C.CERAMIC 50V 0.1UF
C7338	42AA2721	C.CERAMIC 50V 0.1UF
C7339	430B9029	C.ELEC 16V 100UF
C734	42AA2721	C.CERAMIC 50V 0.1UF
C7355	430B9043	C.ELEC 25V 220UF
C7356	430B9043	C.ELEC 25V 220UF
C7401	43KB7523	C.ELEC 25V 33UF
C7402	42AA2721	C.CERAMIC 50V 0.1UF
C7403	42CA1428	C.CERAMIC 50V 33PF
C7404	430B9041	C.ELEC 25V 47UF
C7405	42AA2721	C.CERAMIC 50V 0.1UF
C7406	42AA2721	C.CERAMIC 50V 0.1UF
C7407	42AA1525	C.CHIP CERAMIC 50V0.022UF
C7408	43KB7475	C.ELEC CHIP 50V 1.0UF
C7409	42AA2729	C.CERAMIC 50V 0.047UF
C7410	42CA1416	C.CERAMIC 50V 10PF

SYMBOL	PARTS NO	DESCRIPTION
C7504	42CA1432	C.CERAMIC 50V 47PF
C7505	42CA1432	C.CERAMIC 50V 47PF
C8001	430B9064	C.ELEC 50V 4.7UF
C8002	42AA2721	C.CERAMIC 50V 0.1UF
C8003	433A7021	C.ELEC 25V 10UF
C8004	42AA2721	C.CERAMIC 50V 0.1UF
C8005	433A7021	C.ELEC 25V 10UF
C8006	42AA2721	C.CERAMIC 50V 0.1UF
C8007	433A7021	C.ELEC 25V 10UF
C8009	42AA2721	C.CERAMIC 50V 0.1UF
C801	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8010	430B9029	C.ELEC 16V 100UF
C8011	42AA2721	C.CERAMIC 50V 0.1UF
C8012	430B9062	C.ELEC 50V 2.2UF
C8013	430B9062	C.ELEC 50V 2.2UF
C8014	430B9062	C.ELEC 50V 2.2UF
C8015	42AA2721	C.CERAMIC 50V 0.1UF
C8016	430B9039	C.ELEC 25V 22UF
C8017	42AA2721	C.CERAMIC 50V 0.1UF
C8018	430B6039	C.ELEC 25V 22UF
C8019	42AA2721	C.CERAMIC 50V 0.1UF
C802	43CC1345	C.ELEC 16V 33UF
C8020	42AA2721	C.CERAMIC 50V 0.1UF
C8021	430B6039	C.ELEC 25V 22UF
C8022	430B6061	C.ELEC 50V 1.0UF
C8023	42AA1517	C.CHIP CERAMIC 50V 4700PF
C8024	42AA2721	C.CERAMIC 50V 0.1UF
C8026	42CA1426	C.CERAMIC 50V 27PF
C8028	42CA1464	C.CERAMIC 50V 1000PF
C8029	430B9029	C.ELEC 16V 100UF
C803	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8032	430B9061	C.ELEC 50V 1.0UF
C8033	430B9061	C.ELEC 50V 1.0UF
C8034	42AA2721	C.CERAMIC 50V 0.1UF
C8038	430B9033	C.ELEC 16V 1000UF
C8039	42AA2721	C.CERAMIC 50V 0.1UF
C804	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8040	42AA2721	C.CERAMIC 50V 0.1UF
C8041	430B9042	C.ELEC 25V 100UF
C8045	430B9029	C.ELEC 16V 100UF

SYMBOL	PARTS NO	DESCRIPTION
C8046	42AA2721	C.CERAMIC 50V 0.1UF
C8047	42AA2721	C.CERAMIC 50V 0.1UF
C8048	430B9042	C.ELEC 25V 100UF
C8049	430B9038	C.ELEC 25V 10UF
C805	43CC1345	C.ELEC 16V 33UF
C8050	430B8178	C.ELEC 50V 4.7UF
C8051	430B8176	C.ELEC 50V 2.2UF
C8052	42AA2721	C.CERAMIC 50V 0.1UF
C8053	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8054	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8055	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8056	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8057	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8058	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8059	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C806	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8060	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8061	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8062	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C807	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C808	43CC1345	C.ELEC 16V 33UF
C809	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C810	43CC1350	C.ELEC 25V 3.3UF
C8102	42CA1458	C.CERAMIC 50V 560PF
C8104	42AA2721	C.CERAMIC 50V 0.1UF
C8105	430B9552	C.ELEC 250V 1.0UF
C8106	42840105	C.METAL FILM 250V 1UF
C811	42AA2721	C.CERAMIC 50V 0.1UF
C8111	42AA2721	C.CERAMIC 50V 0.1UF
C8112	430B9552	C.ELEC 250V 1.0UF
C8113	42840105	C.METAL FILM 250V 1UF
C8118	42AA2721	C.CERAMIC 50V 0.1UF
C8119	430B9552	C.ELEC 250V 1.0UF
C812	42AA2721	C.CERAMIC 50V 0.1UF
C8120	42840105	C.METAL FILM 250V 1UF
C8122	4201J575	C.CERAMIC 500V 0.01UF
C8123	430B9556	C.ELEC 250V 10UF
C8124	42AA2721	C.CERAMIC 50V 0.1UF
C8125	4201J575	C.CERAMIC 500V 0.01UF
C8126	430B9556	C.ELEC 250V 10UF

SYMBOL	PARTS NO	DESCRIPTION
C841	42AA2721	C.CERAMIC 50V 0.1UF
C842	42AA2721	C.CERAMIC 50V 0.1UF
C844	42AA2721	C.CERAMIC 50V 0.1UF
C845	43KB7523	C.ELEC 25V 33UF
C846	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C847	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C848	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C901	421D6009	C.CERAMIC 25V 0.1UF
C902	42034143	C.CERAMIC 2KV 1000PF
C904	42019175	C.CERAMIC 2KV 0.01UF

SYMBOL	PARTS NO	DESCRIPTION
C8128	430B6555	C.ELEC 250V 4.7UF
C8129	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C813	43CC1350	C.ELEC 25V 3.3UF
C8130	430B6555	C.ELEC 250V 4.7UF
C8131	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8132	430B6555	C.ELEC 250V 4.7UF
C8133	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8138	42CA1416	C.CERAMIC 50V 10PF
C8139	42CA1416	C.CERAMIC 50V 10PF
C814	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8140	42CA1416	C.CERAMIC 50V 10PF
C8141	42AA2721	C.CERAMIC 50V 0.1UF
C8142	42AA2721	C.CERAMIC 50V 0.1UF
C8143	42AA2721	C.CERAMIC 50V 0.1UF
C815	43CC1345	C.ELEC 16V 33UF
C816	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C817	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C818	43CC1345	C.ELEC 16V 33UF
C819	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C820	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C821	43CC1345	C.ELEC 16V 33UF
C822	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C823	42AA2721	C.CERAMIC 50V 0.1UF
C824	43KB7523	C.ELEC 25V 33UF
C825	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C826	43CC1345	C.ELEC 16V 33UF
C827	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C828	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C829	43CC1345	C.ELEC 16V 33UF
C830	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C831	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C832	43CC1345	C.ELEC 16V 33UF
C833	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C834	42AA2721	C.CERAMIC 50V 0.1UF
C835	43KB7452	C.ELEC CHIP 25V 33UF
C836	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C837	43KB7538	C.ELEC 16V 100UF
C838	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C839	43KB7515	C.ELEC 16V 10UF
C840	43KB7538	C.ELEC 16V 100UF

3. XP-2990G

SYMBOL	PARTS NO	DESCRIPTION
*** CRT & TUNER ***		
CRT	33029036	CRT-M68LMF256X
*** ICS ***		
IC1003	370EC030	MOS HD74HC573FP-EL
IC1004	37058820	MOS UPD78P018FYCW
IC1005	370E3275	MOS HD74HC138FPTL
IC1006	37058805	MOS 24LC08B/P
IC1007	37056122	MOS UPD71055C
IC1008	371E1568	IC PST529G-2(T) (3.3V RES)
IC1010	37058829	MOS UPD78P014YCW
IC1011	37058582	MOS MAX232CPE (TRNSMIT)
IC1012	37056111	MOS UPD71051C
IC1013	37056111	MOS UPD71051C
IC1014	370E3306	MOS UPD74HC326S-T2
IC1015	37056122	MOS UPD71055C
IC1022	37005160	IC MC7812CT (JBL1045CT)
IC1023	37005164	IC MC7912CT (REG)
IC1024	37005228	IC PQ05RF1 (REG)
IC1030	37009037	IC UPC1885CT
IC1031	370E3425	MOS UPD74HC221AG-T1
IC1032	37101395	IC BA10324
IC1033	37011320	IC LA6500
IC1301	37001086	IC TA8211AH (AMP)
IC1302	37001075	IC UPC1406HA (DC-CONT)
IC1401	37011068	IC UPC4558C (OP AMP)
IC1402	37006023	IC STK792-110
IC1403	37005315	IC NJM7818FA
IC1404	37005316	IC NJM7918FA
IC2002	37056616	IC BA10358
IC5003	370K0011	IC UPCT8L12T-E2
IC5005	37058804	MOS M62353P
IC5006	37011363	IC M52723SP
IC5501	37056616	IC BA10358
IC5502	37101395	IC BA10324
IC5503	37058477	MOS UPD6345C (DRIVER)
IC5504	37005085	IC UPCT8L12J
IC701	37011361	IC MM1313AD (AV-SW)
IC7202	370AA009	IC MM1112XF (V-SW)

SYMBOL	PARTS NO	DESCRIPTION
IC7205	370AA008	IC MM1111XF (V-SW)
IC7208	370AA008	IC MM1111XF (V-SW)
IC7209	37011342	IC TA8772AN (1H DL)
IC7210	37003058	IC TA8880CN
IC7211	370E3413	MOS UPD4538BG-T2
IC7213	37903282	IC UPCT805AHF
IC7214	37005093	IC NJM7809FA
IC7401	37RAA004	IC CXA1686M-T6
IC7402	37R58088	MOA CXD2024AQ
IC7404	37011299	IC LA7950 (50/60 SW)
IC8001	37010006	IC M52320SP
IC8002	370EH018	MOS M62358FP-75BC
IC8004	37005256	IC UPCT812AHF (REG)
IC8005	37903282	IC UPCT805AHF
IC801	37RED061	MOS 24LC21T-1/SN
IC802	370E6009	MOS UPD4066BG (T2)
IC803	37011018	IC UPC311C (COMP)
IC804	37056615	IC BA10393
IC805	37011018	IC UPC311C (COMP)
IC8101	37RAA010	IC AD8013AR-14-REEL
RV101	37058792	PHOTO SENSOR SBX8025A-F
*** TRANSISTORS ***		
Q1001	35CB0015	TR 2SC1623-T2B(180°) L5
Q1020	35CB0015	TR 2SC1623-T2B(180°) L5
Q1021	35CB0015	TR 2SC1623-T2B(180°) L5
Q1023	35CB0015	TR 2SC1623-T2B(180°) L5
Q1026	35EB0002	TR FA1A4M-T2B(180°)
Q1030	35CB0015	TR 2SC1623-T2B(180°) L5
Q1033	35CB0015	TR 2SC1623-T2B(180°) L5
Q1034	35CB0015	TR 2SC1623-T2B(180°) L5
Q1035	35CB0015	TR 2SC1623-T2B(180°) L5
Q1038	35CB0015	TR 2SC1623-T2B(180°) L5
Q1044	35EB0002	TR FA1A4M-T2B(180°)
Q1050	35CB0015	TR 2SC1623-T2B(180°) L5
Q1051	35CB0015	TR 2SC1623-T2B(180°) L5
Q1052	35EB0002	TR FA1A4M-T2B(180°)
Q1053	35EB0002	TR FA1A4M-T2B
Q1055	35EB0026	TR FA1A4M-T2B

SYMBOL	PARTS NO	DESCRIPTION
Q1056	35EB0026	TR FAIL4M-T2B
Q1057	35CB0015	TR 2SC1623-T2B(180°) L5
Q1058	35AB0015	TR 2SA812-T2B(180°) M5
Q1059	35AB0015	TR 2SA812-T2B(180°) M5
Q1301	35CB0015	TR 2SC1623-T2B(180°) L5
Q1302	35CB0015	TR 2SC1623-T2B(180°) L5
Q1401	35EB0002	TR FAIL4M-T2B(180°)
Q1402	35CB0015	TR 2SC1623-T2B(180°) L5
Q1403	35AB0015	TR 2SA812-T2B(180°) M5
Q1404	35CB0015	TR 2SC1623-T2B(180°) L5
Q1405	350H4418	TR,2SC1473-TA R
Q1407	35063411	TR,2SD401A K
Q5001	35127470	TR 2SJ306
Q5002	350E3218	TR 2SC1740S-T R
Q5003	350K5700	TR 2SA933S-T
Q5004	350E3218	TR 2SC1740S-T R
Q5005	350E3218	TR 2SC1740S-T R
Q5006	350A1500	TR 2SA1767-TA
Q5007	35122800	TR 2SK1271
Q5008	350E3218	TR 2SC1740S-T R
Q5009	350E3218	TR 2SC1740S-T R
Q5010	35005216	TR 2SA1018 P
Q5011	35084400	TR,2SC3063
Q5012	35007204	TR 2SA1381 D
Q5013	35084400	TR,2SC3063
Q5014	35094200	TR 2SC4572
Q5015	35005216	TR 2SA1018 P
Q5017	35124500	TR 2SJ196
Q5020	350H4418	TR,2SC1473-TA R
Q5023	351G0577	TR DTC144ESA-T
Q5024	351G0577	TR DTC144ESA-T
Q5025	35122800	TR 2SK1271
Q5027	350E3218	TR 2SC1740S-T R
Q5028	350A2020	TR 2SA933AS-T
Q5029	35095340	TR 2SC2518
Q5030	35025211	TR 2SB546 K
Q5031	35025211	TR 2SB546 K
Q5032	350H4418	TR,2SC1473-TA R
Q5033	350H4418	TR,2SC1473-TA R
Q5034	350H4418	TR,2SC1473-TA R

SYMBOL	PARTS NO	DESCRIPTION
Q5541	350E3218	TR 2SC1740S-T R
Q5542	350E3218	TR 2SC1740S-T R
Q5543	350E3218	TR 2SC1740S-T R
Q5544	350E3218	TR 2SC1740S-T R
Q705	35AB0015	TR 2SA812-T2B(180°) M5
Q706	35AB0015	TR 2SA812-T2B(180°) M5
Q707	35CB0011	TR 2SC1623-T1B L5
Q7201	35EB0026	TR FAIL4M-T2B
Q7202	35EB0026	TR FAIL4M-T2B
Q7204	35CB0011	TR 2SC1623-T1B L5
Q7205	35CB0011	TR 2SC1623-T1B L5
Q7206	35CB0011	TR 2SC1623-T1B L5
Q7207	35CB0011	TR 2SC1623-T1B L5
Q7209	35CB0011	TR 2SC1623-T1B L5
Q7210	35EB0026	TR FAIL4M-T2B
Q7211	35EB0026	TR FAIL4M-T2B
Q7212	35EB0026	TR FAIL4M-T2B
Q7213	35EB0026	TR FAIL4M-T2B
Q7214	35CB0011	TR 2SC1623-T1B L5
Q7215	35EB0026	TR FAIL4M-T2B
Q7216	35EB0026	TR FAIL4M-T2B
Q7217	35CB0011	TR 2SC1623-T1B L5
Q7218	35CB0011	TR 2SC1623-T1B L5
Q7219	35CB0011	TR 2SC1623-T1B L5
Q7220	35CB0011	TR 2SC1623-T1B L5
Q7221	35CB0011	TR 2SC1623-T1B L5
Q7222	35CB0011	TR 2SC1623-T1B L5
Q7401	35CB0011	TR 2SC1623-T1B L5
Q7402	35CB0011	TR 2SC1623-T1B L5
Q7403	35CB0011	TR 2SC1623-T1B L5
Q7404	35EB0026	TR FAIL4M-T2B
Q7405	35AB0015	TR 2SA812-T2B(180°) M5
Q7406	35AB0015	TR 2SA812-T2B(180°) M5
Q7407	35AB0015	TR 2SA812-T2B(180°) M5
Q7408	35AB0015	TR 2SA812-T2B(180°) M5
Q7409	35AB0015	TR 2SA812-T2B(180°) M5
Q7502	35CB0011	TR 2SC1623-T1B L5
Q7503	35CB0011	TR 2SC1623-T1B L5
Q8003	35CB0011	TR 2SC1623-T1B L5
Q8007	35CB0011	TR 2SC1623-T1B L5

SYMBOL	PARTS NO	DESCRIPTION
Q5035	35095340	TR 2SC2518
Q5036	350H4418	TR,2SC1473-TA R
Q5037	350E3218	TR 2SC1740S-T R
Q5038	350E3218	TR 2SC1740S-T R
Q5039	350A2020	TR 2SA933AS-T
Q5501	35095300	TR 2SC5144
Q5502	35128007	TR FS14SM-18A
Q5503	35128007	TR FS14SM-18A
Q5504	35122500	TR 2SK758
Q5505	35122500	TR 2SK758
Q5506	350E3218	TR 2SC1740S-T R
Q5507	350A2020	TR 2SA933AS-T
Q5508	35070812	TR 2SD1587 L
Q5509	350H4417	TR,2SC1473-TA Q
Q5510	350H4417	TR,2SC1473-TA Q
Q5511	35052317	TR,2SC1573 Q
Q5512	35070812	TR 2SD1587 L
Q5513	35031112	TR 2SB1096 L
Q5514	350E3218	TR 2SC1740S-T R
Q5515	350E3218	TR 2SC1740S-T R
Q5516	350E3218	TR 2SC1740S-T R
Q5517	350E3218	TR 2SC1740S-T R
Q5518	350E3218	TR 2SC1740S-T R
Q5519	350E3218	TR 2SC1740S-T R
Q5520	35127580	TR 2SK1642
Q5520B	35127580	TR 2SK1642
Q5521	35127580	TR 2SK1642
Q5522	35127580	TR 2SK1642
Q5523	35127580	TR 2SK1642
Q5524	35127580	TR 2SK1642
Q5525	35127580	TR 2SK1642
Q5526	35127580	TR 2SK1642
Q5527	35063412	TR 2SD401A L
Q5528	35063412	TR 2SD401A L
Q5529	35063412	TR 2SD401A L
Q5530	35063412	TR 2SD401A L
Q5533	351G0570	TR DTA144ESA-T
Q5535	351G0570	TR DTA144ESA-T
Q5536	351G0577	TR DTC144ESA-T
Q5540	350E3218	TR 2SC1740S-T R

SYMBOL	PARTS NO	DESCRIPTION
Q8008	35AB0015	TR 2SA812-T2B(180°) M5
Q8009	35CB0011	TR 2SC1623-T1B L5
Q801	35CB0011	TR 2SC1623-T1B L5
Q8010	350H5017	TR,2SC3811-TA Q
Q8013	35AB0015	TR 2SA812-T2B(180°) M5
Q8014	35CB0011	TR 2SC1623-T1B L5
Q8015	35CB0011	TR 2SC1623-T1B L5
Q802	35CB0011	TR 2SC1623-T1B L5
Q803	35CB0011	TR 2SC1623-T1B L5
Q804	35CB0011	TR 2SC1623-T1B L5
Q805	35CB0011	TR 2SC1623-T1B L5
Q806	35CB0011	TR 2SC1623-T1B L5
Q807	35EB0205	TR DTA144EKA-T146(0°)
Q808	35EB0026	TR FAIL4M-T2B
Q810	35EB0205	TR DTA144EKA-T146(0°)
Q8101	35095333	TR 2SC4271 E
Q8102	35095323	TR 2SC4623 E
Q8103	35084105	TR,2SC3600 E
Q8104	35006305	TR,2SA1406 E
Q8105	35012053	TR 2SA1371 E
Q8108	35095323	TR 2SC4623 E
Q8109	35084105	TR,2SC3600 E
Q811	35EB0026	TR FAIL4M-T2B
Q8110	35006305	TR,2SA1406 E
Q8111	35012053	TR 2SA1371 E
Q8113	35095333	TR 2SC4271 E
Q8114	35095323	TR 2SC4623 E
Q8115	35084105	TR,2SC3600 E
Q8116	35006305	TR,2SA1406 E
Q8117	35012053	TR 2SA1371 E
Q8119	35CB0011	TR 2SC1623-T1B L5
Q8120	35CB0011	TR 2SC1623-T1B L5
Q8124	35CB0011	TR 2SC1623-T1B L5
Q8125	35CB0011	TR 2SC1623-T1B L5
Q8126	35CB0011	TR 2SC1623-T1B L5
Q8127	350H4417	TR,2SC1473-TA Q
Q8128	350H4417	TR,2SC1473-TA Q
Q8129	350H4417	TR,2SC1473-TA Q
Q813	35CB0011	TR 2SC1623-T1B L5
Q8133	35CB2433	TR 2SC4269 4-TB



SYMBOL	PARTS NO	DESCRIPTION
Q8134	35CB2433	TR 2SC4269 4-TB
Q8135	35CB2433	TR 2SC4269 4-TB
Q814	35CB0011	TR 2SC1623-T1B L5
Q815	35CB0011	TR 2SC1623-T1B L5
Q816	35EB0205	TR DTA144EKA-T146 (0°)
Q817	35EB0026	TR FAIL4M-T2B
Q818	35CB0011	TR 2SC1623-T1B L5
Q819	35EB0026	TR FAIL4M-T2B
Q820	35EB0026	TR FAIL4M-T2B
Q8207	35095333	TR 2SC4271 E
Q821	35EB0026	TR FAIL4M-T2B
Q823	35EB0026	TR FAIL4M-T2B
Q824	35EB0026	TR FAIL4M-T2B
Q825	35CB0011	TR 2SC1623-T1B L5
Q826	35CB0011	TR 2SC1623-T1B L5
Q827	35CB2433	TR 2SC4269 4-TB
Q828	35AB0123	TR 2SA1461-T2B Y23
Q829	35CB2433	TR 2SC4269 4-TB
Q830	35AB0123	TR 2SA1461-T2B Y23
Q831	35CB2433	TR 2SC4269 4-TB
Q832	35AB0123	TR 2SA1461-T2B Y23

\*\*\* DIODES \*\*\*

D1001	36CB0213	DIODE DAN212K-T146
D1002	36CB0213	DIODE DAN212K-T146
D1003	361K7522	DIODE ERA15-02 V1
D101	36801348	LED SPR39MVWF
D1011	361K7522	DIODE ERA15-02 V1
D1015	36CB0213	DIODE DAN212K-T146
D1016	36CB0213	DIODE DAN212K-T146
D1021	36CB0213	DIODE DAN212K-T146
D1022	36CB0213	DIODE DAN212K-T146
D1023	36CB0213	DIODE DAN212K-T146
D1024	36CB0213	DIODE DAN212K-T146
D1025	36CB0213	DIODE DAN212K-T146
D1031	36CB0079	DIODE DAN202K-T146 (0°)
D1034	36107562	DIODE EGP10G
D1035	36107562	DIODE EGP10G
D1036	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D1037	36CB0213	DIODE DAN212K-T146
D1038	36CB0213	DIODE DAN212K-T146
D1039	36CB0213	DIODE DAN212K-T146
D1040	36CB0213	DIODE DAN212K-T146
D1041	36CB0079	DIODE DAN202K-T146 (0°)
D1042	36CB0213	DIODE DAN212K-T146
D1043	36CB0079	DIODE DAN202K-T146 (0°)
D1044	36CB0213	DIODE DAN212K-T146
D1301	36CB0213	DIODE DAN212K-T146
D1302	36CB0213	DIODE DAN212K-T146
D1303	36CB0079	DIODE DAN202K-T146 (0°)
D1401	36CB0213	DIODE DAN212K-T146
D1402	36CB0213	DIODE DAN212K-T146
D1403	36CB0079	DIODE DAN202K-T146 (0°)
D1407	36CB0213	DIODE DAN212K-T146
D1408	36CB0213	DIODE DAN212K-T146
D1409	36CB0213	DIODE DAN212K-T146
D5001	36107562	DIODE EGP10G
D5002	36107638	DIODE EGP30G
D5003	360K1049	DIODE 1SS270A TA
D5004	360K1049	DIODE 1SS270A TA
D5006	36107562	DIODE EGP10G
D5007	360K1049	DIODE 1SS270A TA
D5008	360K1049	DIODE 1SS270A TA
D5010	360K1049	DIODE 1SS270A TA
D5011	36107761	DIODE RU4DS (LF-J2)
D5012	36107761	DIODE RU4DS (LF-J2)
D5013	36108254	DIODE ESAC39M-Q4D F77
D5015	360K1049	DIODE 1SS270A TA
D5016	360K1049	DIODE 1SS270A TA
D5017	360K1049	DIODE 1SS270A TA
D5018	360K1049	DIODE 1SS270A TA
D5019	36107562	DIODE EGP10G
D5020	360K1049	DIODE 1SS270A TA
D5022	360K1049	DIODE 1SS270A TA
D5023	361K7522	DIODE ERA15-02 V1
D5024	360K1049	DIODE 1SS270A TA
D5025	360K1049	DIODE 1SS270A TA
D5501	36107765	DIODE FMQ-65G5
D5502	36107285	DIODE SB340

SYMBOL	PARTS NO	DESCRIPTION
D5503	361K7541	DIODE EG01A-V1
D5504	361K7541	DIODE EG01A-V1
D5507	360K1049	DIODE 1SS270A TA
D5508	360K1049	DIODE 1SS270A TA
D5509	361K7737	DIODE EG01Z V1
D5510	361K7737	DIODE EG01Z V1
D5513	361K7307	DIODE RG1CV1
D5514	361K7737	DIODE EG01Z V1
D5516	360K1049	DIODE 1SS270A TA
D5517	360K1049	DIODE 1SS270A TA
D5518	360K1049	DIODE 1SS270A TA
D5519	360K1049	DIODE 1SS270A TA
D5520	360K1049	DIODE 1SS270A TA
D5521	360K1049	DIODE 1SS270A TA
D5522	360K1049	DIODE 1SS270A TA
D701	361K7522	DIODE ERA15-02 V1
D7501	36CB0213	DIODE DAN212K-T146
D7502	36CB0213	DIODE DAN212K-T146
D7503	36CB0213	DIODE DAN212K-T146
D7504	36CB0213	DIODE DAN212K-T146
D7505	361K7522	DIODE ERA15-02 V1
D7506	361K7522	DIODE ERA15-02 V1
D7507	36CB0213	DIODE DAN212K-T146
D7508	36CB0213	DIODE DAN212K-T146
D8001	36CB0213	DIODE DAN212K-T146
D8002	36CB0213	DIODE DAN212K-T146
D8003	36CB0213	DIODE DAN212K-T146
D8004	36CB0213	DIODE DAN212K-T146
D8005	36CB0213	DIODE DAN212K-T146
D8006	36CB0213	DIODE DAN212K-T146
D8007	360K1037	DIODE 1SS83
D8008	361K8232	DIODE RB721Q-T72
D8009	361K8232	DIODE RB721Q-T72
D801	36CB0213	DIODE DAN212K-T146
D8010	361K8232	DIODE RB721Q-T72
D8011	361K7522	DIODE ERA15-02 V1
D802	36CB0213	DIODE DAN212K-T146
D803	36CB0213	DIODE DAN212K-T146
D804	36CB0213	DIODE DAN212K-T146
D805	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D806	36CB0213	DIODE DAN212K-T146
D8101	36CB0213	DIODE DAN212K-T146
D8102	361K8232	DIODE RB721Q-T72
D8103	360K1025	DIODE 1SS133
D8104	360K1025	DIODE 1SS133
D8105	360K1037	DIODE 1SS83
D8106	360K1037	DIODE 1SS83
D8107	360K1037	DIODE 1SS83
D8108	36CB0213	DIODE DAN212K-T146
D8109	361K8232	DIODE RB721Q-T72
D811	36CB0213	DIODE DAN212K-T146
D8110	360K1025	DIODE 1SS133
D8111	360K1025	DIODE 1SS133
D8112	360K1037	DIODE 1SS83
D8113	360K1037	DIODE 1SS83
D8114	360K1037	DIODE 1SS83
D8115	36CB0213	DIODE DAN212K-T146
D8116	361K8232	DIODE RB721Q-T72
D8117	360K1025	DIODE 1SS133
D8118	360K1025	DIODE 1SS133
D8119	360K1037	DIODE 1SS83
D812	36CB0213	DIODE DAN212K-T146
D8120	360K1037	DIODE 1SS83
D8121	360K1037	DIODE 1SS83
D813	36CB0213	DIODE DAN212K-T146
D814	36CB0213	DIODE DAN212K-T146
D815	36CB0213	DIODE DAN212K-T146
D816	36CB0213	DIODE DAN212K-T146
D817	36CB0213	DIODE DAN212K-T146
D818	36CB0213	DIODE DAN212K-T146
D819	36CB0213	DIODE DAN212K-T146
D820	36CB0213	DIODE DAN212K-T146
D821	36CB0213	DIODE DAN212K-T146
D822	36CB0213	DIODE DAN212K-T146
D823	36CB0213	DIODE DAN212K-T146
D824	36CB0213	DIODE DAN212K-T146
D825	36CB0213	DIODE DAN212K-T146
D826	36CB0213	DIODE DAN212K-T146
D827	36CB0213	DIODE DAN212K-T146
D828	36CB0213	DIODE DAN212K-T146

SYMBOL	PARTS NO	DESCRIPTION
D829	36C80213	DIODE DAN212K-T146
D830	36C80213	DIODE DAN212K-T146
D831	36C80213	DIODE DAN212K-T146
D832	36C80213	DIODE DAN212K-T146
D833	36C80213	DIODE DAN212K-T146
D834	36C80213	DIODE DAN212K-T146
D835	36C80213	DIODE DAN212K-T146
D836	36C80213	DIODE DAN212K-T146
D837	36C80213	DIODE DAN212K-T146
D838	36C80213	DIODE DAN212K-T146
D839	36C80213	DIODE DAN212K-T146
D840	36C80213	DIODE DAN212K-T146
D841	36C80213	DIODE DAN212K-T146
D842	36C80213	DIODE DAN212K-T146
D843	36C80213	DIODE DAN212K-T146
D844	36C80213	DIODE DAN212K-T146
ZD1011	36B80093	DIODE RD4.7MB1-T2B(180°)
ZD1012	36B80101	DIODE RD5.6MB2-T2B(180°)
ZD1013	36B80093	DIODE RD4.7MB1-T2B(180°)
ZD1015	36B80093	DIODE RD4.7MB1-T2B(180°)
ZD1017	36B80093	DIODE RD4.7MB1-T2B(180°)
ZD1018	36B80061	DIODE RD12MB-T2B
ZD1019	36B80061	DIODE RD12MB-T2B
ZD1020	36B80061	DIODE RD12MB-T2B
ZD1021	36B80061	DIODE RD12MB-T2B
ZD1022	36B80061	DIODE RD12MB-T2B
ZD1023	36B80061	DIODE RD12MB-T2B
ZD1024	36B80061	DIODE RD12MB-T2B
ZD1025	36B80061	DIODE RD12MB-T2B
ZD1036	36B80093	DIODE RD4.7MB1-T2B(180°)
ZD1040	36B80085	DIODE RD3.3MB2-T2B(180°)
ZD1041	36B80036	DIODE RD3.6MB-T2B(180°)
ZD1242	36B80097	DIODE RD5.1MB2-T2B(180°)
ZD1301	36B80122	DIODE RD10MB2-T2B(180°)
ZD1401	36B80108	DIODE RD6.8MB2-T2B(180°)
ZD1404	36B80108	DIODE RD6.8MB2-T2B(180°)
ZD1405	36B80061	DIODE RD12MB-T2B
ZD1406	36B80108	DIODE RD6.8MB2-T2B(180°)
ZD2001	36K3671	DIODE RD12ES AB2-T4
ZD2002	36K3634	DIODE RD5.1ESB(1)-T4

SYMBOL	PARTS NO	DESCRIPTION
ZD804	36B80099	DIODE RD5.6MB-T2B(180°)
ZD805	36B80097	DIODE RD5.1MB2-T2B(180°)
ZD806	36B80099	DIODE RD5.6MB-T2B(180°)
ZD807	36B80099	DIODE RD5.6MB-T2B(180°)

\*\*\* TRANSFORMERS \*\*\*

L5002	46207001	COIL,CHOKE 2MH
L5006	46316606	COIL,CHOKE
T5002	47105429	F.B.T(MSUIFHN49)
T5003	46316604	TRANS.DYNAMIC FOCUS
T5501	47710022	TRANS.H.OUT
T5502	45805001	TRANS.H.DRIVE

\*\*\* VARIABLE RESISTORS \*\*\*

VR1001	41505205	R.VARIABLE B5.0K
VR1201	41071222	R.VARIABLE B330K
VR1301	41071213	R.VARIABLE B10K
VR1401	41071011	R.VARIABLE B4.7K
VR2001	41505210	R.VARIABLE B200K
VR2002	41505107	R.VARIABLE B5K
VR7201	410G1210	R.VARIABLE B3.3K
VR7202	410G1210	R.VARIABLE B3.3K
VR7401	410G1205	R.VARIABLE B470
VR8001	410G1222	R.VARIABLE B330K

\*\*\* RELAYS & SWITCHES \*\*\*

RL5501	65602521	RELAY G6C-1114P
RL5502	65602521	RELAY G6C-1114P
RL5503	65602521	RELAY G6C-1114P
RL5504	65602521	RELAY G6C-1114P
RL5505	65602157	RELAY
RL8101	65602571	RELAY G6E-134P-US.DC12V
RL8102	65602571	RELAY G6E-134P-US.DC12V
RL8103	65602571	RELAY G6E-134P-US.DC12V
SW1001	653F1038	PUSH SWITCH
S101	65313308	PUSH SWITCH BUTTON
S102	65361049	SW,TACT
S103	65361049	SW,TACT
S104	65361049	SW,TACT
S105	65361049	SW,TACT
S106	65361049	SW,TACT

SYMBOL	PARTS NO	DESCRIPTION
ZD2003	36K3634	DIODE RD5.1ESB(1)-T4
ZD5002	36K3643	DIODE RD6.2ES AB2-T4
ZD5003	36K3654	DIODE RD8.2ES AB1-T4
ZD5004	36K3623	DIODE RD3.9ESB(1)-T4
ZD5007	36K3662	DIODE RD10ESB(1)-T4
ZD5008	36K3658	DIODE RD9.1ESB(1)-T4
ZD5009	36K3658	DIODE RD9.1ESB(1)-T4
ZD5010	36K3634	DIODE RD5.1ESB(1)-T4
ZD5501	36K3671	DIODE RD12ES AB2-T4
ZD5502	36K3688	DIODE RD18ES AB3-T4
ZD5503	36K3635	DIODE RD5.1ESB(2)-T4
ZD7201	36B80098	DIODE RD5.1MB3-T2B(180°)
ZD7202	36B80088	DIODE RD3.6MB2-T2B(180°)
ZD7501	36B80098	DIODE RD5.1MB3-T2B(180°)
ZD7502	36B80071	DIODE RD15MB2-T2(180°)
ZD7503	36B80071	DIODE RD15MB2-T2(180°)
ZD7504	36B80071	DIODE RD15MB2-T2(180°)
ZD7505	36B80071	DIODE RD15MB2-T2(180°)
ZD7506	36B80071	DIODE RD15MB2-T2(180°)
ZD7507	36B80071	DIODE RD15MB2-T2(180°)
ZD7508	36B80071	DIODE RD15MB2-T2(180°)
ZD7509	36B80071	DIODE RD15MB2-T2(180°)
ZD7510	36B80071	DIODE RD15MB2-T2(180°)
ZD7511	36B80071	DIODE RD15MB2-T2(180°)
ZD7512	36B80071	DIODE RD15MB2-T2(180°)
ZD7513	36B80071	DIODE RD15MB2-T2(180°)
ZD7514	36B80071	DIODE RD15MB2-T2(180°)
ZD7515	36B80071	DIODE RD15MB2-T2(180°)
ZD7516	36B80071	DIODE RD15MB2-T2(180°)
ZD7517	36B80071	DIODE RD15MB2-T2(180°)
ZD8002	36B80108	DIODE RD6.8MB2-T2B(180°)
ZD8003	36B80108	DIODE RD6.8MB2-T2B(180°)
ZD8004	36B80097	DIODE RD5.1MB2-T2B(180°)
ZD8005	36B80105	DIODE RD6.2MB2-T2B(180°)
ZD8006	36B80105	DIODE RD6.2MB2-T2B(180°)
ZD8007	36B80105	DIODE RD6.2MB2-T2B(180°)
ZD8008	36B80105	DIODE RD6.2MB2-T2B(180°)
ZD801	36B80099	DIODE RD5.6MB-T2B(180°)
ZD802	36B80099	DIODE RD5.6MB-T2B(180°)
ZD803	36B80099	DIODE RD5.6MB-T2B(180°)

SYMBOL	PARTS NO	DESCRIPTION
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S107	65361049	SW,TACT
S1401	65113508	SWITCH,SLIDE
S701	65113270	SWITCH,SLIDE
S702	65113270	SWITCH,SLIDE
S703	65113270	SWITCH,SLIDE
S7501	65121105	SWITCH,SLIDE
S801	65113270	SWITCH,SLIDE
S802	65113270	SWITCH,SLIDE
S803	65113270	SWITCH,SLIDE
S804	65113508	SWITCH,SLIDE

\*\*\* COILS & FILTERS \*\*\*

CF7201	39603402	FOCUS CONTROL VOLUME
DL7201	611A1008	CERAMIC TRAP
DL7202	61511048	DELAY LINE 0.3US
DL7203	61EA1638	DELAY LINE 0.1US
	61EA1639	DELAY LINE 0.25US
FB5001	61605005	FERRITE BEADS 5*10*1.8
FB5002	61605005	FERRITE BEADS 5*10*1.8
FB5501	61605008	FERRITE BEADS 3.5*5*1.3
FB5502	61605008	FERRITE BEADS 3.5*5*1.3
FB5503	61605008	FERRITE BEADS 3.5*5*1.3
FL7401	39KB6276	L.P.F 8MHZ TH355LSJ-5728
FL7402	39KB6276	L.P.F 8MHZ TH355LSJ-5728
FL7403	39KB6276	L.P.F 8MHZ TH355LSJ-5728
FL801	616K6814	NOISE FILTER
FL802	616K6814	NOISE FILTER
FL803	616K6814	NOISE FILTER
FL804	616K6814	NOISE FILTER
FL805	616K6823	NOISE FILTER
FL806	616K6814	NOISE FILTER
FL807	616K6823	NOISE FILTER
FL808	616K6814	NOISE FILTER
FL809	616K6814	NOISE FILTER
FL8100	61605007	FERRITE BEADS 2.5*1.2*0.7
FL8101	61605007	FERRITE BEADS 2.5*1.2*0.7
FL8102	61605007	FERRITE BEADS 2.5*1.2*0.7
L1001	610F7514	COIL,FILTER 5.6UH
L1002	610F7514	COIL,FILTER 5.6UH

SYMBOL	PARTS NO	DESCRIPTION
L101	610E1743	COIL,FILTER 1500UH
L1010	610F7514	COIL,FILTER 5.6UH
L1020	610F7529	COIL,FILTER 100UH
L5001	610G0233	FILTER CHOKE PJ8T-470K
L5003	61099118	FILTER COIL
L5004	61099140	COIL,FILTER 100L P110
L5005	61099140	COIL,FILTER 100L P110
L5501	60917073	COIL,H.LIN
L5502	60917073	COIL,H.LIN
L5503	61099126	COIL,FILTER 330UH
L5504	61099141	COIL,CHOKE
L5505	61099118	FILTER COIL
L7201	610E1710	COIL,FILTER 2.7UH
L7202	610E1727	COIL,FILTER 68UH
L7203	610E1728	COIL,FILTER 82UH
L7204	610E1720	COIL,FILTER 18UH
L7205	610E1725	COIL,FILTER 47UH
L7206	610E1725	COIL,FILTER 47UH
L7207	610E1725	COIL,FILTER 47UH
L7208	610E1725	COIL,FILTER 47UH
L7209	610E1725	COIL,FILTER 47UH
L7210	610E1723	COIL,FILTER 33UH
L7211	610E1724	COIL,FILTER 39UH
L7212	610E1725	COIL,FILTER 47UH
L7213	610E1725	COIL,FILTER 47UH
L7401	610E1731	COIL,FILTER 150UH
L7402	610E1733	COIL,FILTER 220UH
L7403	610E1733	COIL,FILTER 220UH
L7404	610E1733	COIL,FILTER 220UH
L8001	610E1705	COIL,FILTER 1.0UH
L8101	610E1705	COIL,FILTER 1.0UH
L8103	610E1746	COIL,FILTER 0.22UH
L8104	610E1705	COIL,FILTER 1.0UH
L8106	610E1746	COIL,FILTER 0.22UH
L8107	610E1705	COIL,FILTER 1.0UH
L8109	610E1746	COIL,FILTER 0.22UH
L901	610E1750	COIL,FILTER 0.47UH
L902	610E1750	COIL,FILTER 0.47UH
L903	610E1750	COIL,FILTER 0.47UH

SYMBOL	PARTS NO	DESCRIPTION
M7503	70505027	HEADPHONE JACK
M7504	70505027	HEADPHONE JACK
M801	70056200	D-SUB SOCKET (15PIN)
M802	70056475	CONNECTOR,D-SUB
M803	71123501	BOARD,BNC
SG/CRT	70032272	SG/CRT SOCKET
SG5001	66706003	SPARK GAP 2.0KV
SG901	66706001	SPARK GAP 1.2KV
SG902	66706001	SPARK GAP 1.2KV
SG903	66706001	SPARK GAP 1.2KV
SG904	66706001	SPARK GAP 1.2KV
SG905	66706001	SPARK GAP 1.2KV
SK1004	70102924	SOCKET,IC 64P
SK1006	70102141	SOCKET,IC 8P
SK1010	70102924	SOCKET,IC 64P
X1001	64098039	X'TAL(10.000MHZ)
X1002	640J9218	X'TAL OSC 9.8304MHZ
X7201	64003027	X'TAL 4.43MHZ(NDK)
X7202	64003022	X'TAL OSC 3.58MHZ
X7402	64099203	X'TAL OSC 14.318MHZ
X7403	64099202	X'TAL OSC 17.73MHZ(KDS)

\*\*\* APPEARANCE PARTS \*\*\*

70301534	RUBBER WEDGE
70301536	FERRITE SHEET
70301537	FERRITE SHEET(60MM)
24B15751	LED SPACER(H95)
24C00111	CLAMPER,WIRE (D15)
24DT6161	FRONT CABINET ASSY
24DT6171	BACK COVER ASSY
24D08453	CABINET
24D10121	FRONT PANEL
24D10131	BACK COVER
24F25001	ADHESIVE PIECE A
24F25011	ADHESIVE PIECE B
24F25021	ADHESIVE PIECE C
24F27761	INDICATOR(POW)
24F27801	HANDLE
24F27931	CHASSIS BASE
24G11381	BUTTON(POW) ASSY
24G04461	BUTTON(CTL)
24G04471	BUTTON(POW)

SYMBOL	PARTS NO	DESCRIPTION
T5503	60917089	COIL,LIN
T5504	60917089	COIL,LIN
T5505	60917089	COIL,LIN
T5508	60917089	COIL,LIN
WI DEG	61329102	COIL,DEGAUSSING
X1003	61111015	CERAMIC OSC CSB500F2
X7203	61111805	CERAMIC OSC CSB503F3D
X7401	61111015	CERAMIC OSC CSB500F2

\*\*\* PWB ASSYS \*\*\*

933D4DA2	DEF PWB ASSY
933D4DB2	SW-LED PWB ASSY
933D4G02	V-CRT PWB ASSY
933D4TA2	VIDEO I/O PWB ASSY
933D4TB2	RGB OUT PWB ASSY
933D4F02	CPU/OSC PWB ASSY
933D4H02	HV PWB ASSY

\*\*\* ELECTRICAL PARTS & MISCELLANEOUS PARTS \*\*\*

31710044	FAN MOTOR
31710045	FAN MOTOR
63010112	SPEAKER 90*55 16H 5W ALN
68043001	BATTERY,DRY CELL SUM-3
70800033	LINE CORD
79644641	RD-346E
79644841	POWER UNIT
48007486	DEFLECTION YOKE
39030098	R.NETWORK 4*4.7K 5% 1/8W
39030098	R.NETWORK 4*4.7K 5% 1/8W
D.Y	
FR5501	
FR5502	
79644661	HV CONTROL UNIT
M701	BOARD,BNC
M703	SOCKET,DIN 4P TCST949
M704	DIN SOCKET 4P
M705	BOARD,BNC
M707	SOCKET,DIN 4P TCST949
M708	DIN SOCKET 4P
M709	JACK,PIN 4P JPJ0918
M710	JACK,PIN 4P JPJ0918
M711	JACK,PIN 4P JPJ0918
M721	PUSH TERMINAL (4P)
M7501	D-SUB SOCKET (15PIN)
M7502	D-SUB SOCKET (15PIN)

SYMBOL	PARTS NO	DESCRIPTION
24H25771	SIDE FRAME(R)	
24H25781	SIDE FRAME(L)	
24H25791	BACK FRAME	
24J06871	RUBBER FOOT A	
24J07371	CUSHION SHEET(17*140*0.5)	
24J07382	CUSHION SHEET(90*22*0.35)	
24J07442	SHEET (FRONT)	
24J12321	CUSHION(30*27*117)	
24K23081	INLAY(TERMINAL)	
24K23091	INLAY(SENSOR)	
24L37861	SPEC PLATE	

\*\*\* PRINTED & PACKING MATERIALS \*\*\*

24806961	BAG,POLYETHYLENE(270*370)
24813191	BAG,POLYETHYLENE(150*370)
24MU1071	SPACER(T)
24MU1081	SPACER(B)
24MU2101	CARTON BOX
24M09081	BAG,PROTECTION
78408481	USER'S MANUAL

\*\*\* RESISTORS \*\*\*

R1150	401G6109	R,CARBON 2.2H 5% 1/4W
R1170	40178135	R,CARBON 27H 5%
R1171	40178135	R,CARBON 27H 5%
R1172	40178135	R,CARBON 27H 5%
R1188	40372137	R,METAL 33H 5% 2W
R1210	401H5661	R,CARBON 330H 5% 1/2W
R1211	401G6109	R,CARBON 2.2H 5% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R1234	401G6109	R,CARBON 2.2H 5% 1/4W
R1239	40178133	R,CARBON 22H 5% 1/2W
R1295	40373143	R,METAL 56H 5% 3W
R1308	40373107	R,METAL 1.8H 5% 3W
R1309	401G6141	R,CARBON 47H 5% 1/4W
R1426	40372169	R,METAL 680H 5% 2W
R1427	40371101	R,METAL 1.0H 5% 1W
R1428	404C1717	R,METAL 68K 1% 1/6W
R1429	401H5721	R,CARBON 100K 5% 1/2W
R1430	40372157	R,METAL 220H 5% 2W
R2001	404C1742	R,METAL 750K 1% 1/6W
R2002	404C1725	R,METAL 150K 1% 1/6W
R2004	401K5683	R,CARBON 2.7K 5% 1/6W
R2005	401K5697	R,CARBON 10K 5% 1/6W
R2006	404C1696	R,METAL 9.1K 1% 1/6W
R2007	404C1697	R,METAL 10K 1% 1/6W
R2008	404C1721	R,METAL 100K 1% 1/6W
R2009	401K5709	R,CARBON 33K 5% 1/6W
R2010	404C1711	R,METAL 39K 1% 1/6W
R2011	404C1677	R,METAL 1.5K 1% 1/6W
R2012	404C1697	R,METAL 10K 1% 1/6W
R2013	401K5721	R,CARBON 100K 5% 1/6W
R2014	401K5697	R,CARBON 10K 5% 1/6W
R5001	401C6695	R,CARBON 8.2K 5% 1/4W
R5002	401K5693	R,CARBON 6.8K 5% 1/6W
R5003	401G6125	R,CARBON 10H 5% 1/4W
R5004	401C6685	R,CARBON 3.3K 5% 1/4W
R5005	401K5649	R,CARBON 100H 5% 1/6W
R5006	401K5633	R,CARBON 22H 5% 1/6W
R5007	401K5633	R,CARBON 22H 5% 1/6W
R5008	401K5633	R,CARBON 22H 5% 1/6W
R5009	401K5633	R,CARBON 22H 5% 1/6W
R5010	401K5633	R,CARBON 22H 5% 1/6W
R5011	401K5633	R,CARBON 22H 5% 1/6W
R5012	401K5633	R,CARBON 22H 5% 1/6W
R5013	40371103	R,METAL 1.2H 5% 1W
R5014	404KB718	R,METAL 75K 1% 1/4W
R5015	401K5609	R,CARBON 2.2H 5% 1/6W
R5016	404KB718	R,METAL 75K 1% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R5069	401H5721	R,CARBON 100K 5% 1/2W
R5070	40372185	R,METAL 3.3K 5% 2W
R5071	40371141	R,METAL 47H 5% 1W
R5072	40371141	R,METAL 47H 5% 1W
R5073	404CA657	R,METAL 220H 1% 1/6W
R5074	401C6693	R,CARBON 5.8K 5% 1/4W
R5075	40372213	R,METAL 47K 5% 2W
R5076	401K5729	R,CARBON 220K 5% 1/6W
R5077	404C1671	R,METAL 820H 1% 1/6W
R5078	404K2713	R,METAL 47K 1% 1/4W
R5079	404K2713	R,METAL 47K 1% 1/4W
R5080	401G6173	R,CARBON 1.0K 5% 1/4W
R5081	404C1721	R,METAL 100K 1% 1/6W
R5082	404C1697	R,METAL 10K 1% 1/6W
R5083	400B3677	R,SOLID 1.5K 5% 1/2W
R5084	401K5697	R,CARBON 10K 5% 1/6W
R5086	401G6149	R,CARBON 100H 5% 1/4W
R5089	401K5697	R,CARBON 10K 5% 1/6W
R5090	40371211	R,METAL 39K 5% 1W
R5092	401K5673	R,CARBON 1.0K 5% 1/6W
R5093	40371161	R,METAL 330H 5% 1W
R5096	401K5641	R,CARBON 47H 5% 1/6W
R5098	401C6633	R,CARBON 22H 5% 1/4W
R5099	401C6633	R,CARBON 22H 5% 1/4W
R5100	404C1721	R,METAL 100K 1% 1/6W
R5101	40224267	R,WIRE 560H 5% 7W
R5102	40224267	R,WIRE 560H 5% 7W
R5103	40224239	R,WIRE 39H 5% 7W
R5105	40224245	R,WIRE 68H 5% 7W
R5106	40224239	R,WIRE 39H 5% 7W
R5107	40224239	R,WIRE 39H 5% 7W
R5108	40224239	R,WIRE 39H 5% 7W
R5109	401K5689	R,CARBON 4.7K 5% 1/6W
R5110	40371189	R,METAL 4.7K 5% 1W
R5111	40373203	R,METAL 18K 5% 3W
R5112	40373197	R,METAL 10K 5% 3W
R5113	404C1729	R,METAL 220K 1% 1/6W
R5114	404C1703	R,METAL 18K 1% 1/6W
R5115	404C1679	R,METAL 1.8K 1% 1/6W
R5116	404C1719	R,METAL 82K 1% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R5017	401C6641	R,CARBON 47H 5% 1/4W
R5018	404C1697	R,METAL 10K 1% 1/6W
R5019	401K5673	R,CARBON 1.0K 5% 1/6W
R5020	401K5673	R,CARBON 1.0K 5% 1/6W
R5021	401K5709	R,CARBON 33K 5% 1/6W
R5022	401K5721	R,CARBON 100K 5% 1/6W
R5023	401K5721	R,CARBON 100K 5% 1/6W
R5024	401K5709	R,CARBON 33K 5% 1/6W
R5025	401K5721	R,CARBON 100K 5% 1/6W
R5026	401K5721	R,CARBON 100K 5% 1/6W
R5027	401K5709	R,CARBON 33K 5% 1/6W
R5028	401K5715	R,CARBON 56K 5% 1/6W
R5029	401K5633	R,CARBON 22H 5% 1/6W
R5030	401K5697	R,CARBON 10K 5% 1/6W
R5031	401C6633	R,CARBON 22H 5% 1/4W
R5034	401K5697	R,CARBON 10K 5% 1/6W
R5035	401K5701	R,CARBON 15K 5% 1/6W
R5036	401K5697	R,CARBON 10K 5% 1/6W
R5038	401K5699	R,CARBON 12K 5% 1/6W
R5039	401K5673	R,CARBON 1.0K 5% 1/6W
R5040	401K5673	R,CARBON 1.0K 5% 1/6W
R5041	401K5709	R,CARBON 33K 5% 1/6W
R5042	40371337	R,METAL 0.47H 5% 1W
R5043	401K5685	R,CARBON 3.3K 5% 1/6W
R5044	401H5725	R,CARBON 150K 5% 1/2W
R5045	401C6633	R,CARBON 22H 5% 1/4W
R5046	40372333	R,METAL 0.33H 5% 2W
R5047	40372333	R,METAL 0.33H 5% 2W
R5051	401K5701	R,CARBON 15K 5% 1/6W
R5055	401G6101	R,CARBON 1.0H 5% 1/4W
R5057	401K5697	R,CARBON 10K 5% 1/6W
R5058	401K5697	R,CARBON 10K 5% 1/6W
R5059	401K5697	R,CARBON 10K 5% 1/6W
R5060	401K5673	R,CARBON 1.0K 5% 1/6W
R5061	404C1693	R,METAL 6.8K 1% 1/6W
R5062	40373151	R,METAL 120H 5% 3W
R5063	40373151	R,METAL 120H 5% 3W
R5064	404K2721	R,METAL 100K 5% 1/4W
R5065	401G6133	R,CARBON 22H 5% 1/4W
R5068	401K5697	R,CARBON 10K 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R5117	401K5697	R,CARBON 10K 5% 1/6W
R5118	401K5697	R,CARBON 10K 5% 1/6W
R5119	401K5697	R,CARBON 10K 5% 1/6W
R5120	401K5697	R,CARBON 10K 5% 1/6W
R5121	404C1697	R,METAL 10K 1% 1/6W
R5122	404C1887	R,METAL 3.9K 1% 1/6W
R5123	404C1669	R,METAL 680H 1% 1/6W
R5124	401K5665	R,CARBON 470H 5% 1/6W
R5125	40372213	R,METAL 47K 5% 2W
R5126	404C1655	R,METAL 180H 1% 1/6W
R5128	40372185	R,METAL 3.3K 5% 2W
R5129	401K5643	R,CARBON 56H 5% 1/6W
R5130	40175149	R,CARBON 100H 5% 1/4W
R5131	401K5665	R,CARBON 470H 5% 1/6W
R5132	401K5641	R,CARBON 47H 5% 1/6W
R5502	404C1897	R,METAL 10K 5% 1/6W
R5503	404C1691	R,METAL 5.6K 1% 1/6W
R5506	404C1697	R,METAL 10K 1% 1/6W
R5507	401K5713	R,CARBON 47K 5% 1/6W
R5508	401K5691	R,CARBON 5.6K 5% 1/6W
R5509	401C6733	R,CARBON 330K 5% 1/4W
R5510	401K5689	R,CARBON 4.7K 5% 1/6W
R5511	401K5699	R,CARBON 12K 5% 1/6W
R5512	401K5673	R,CARBON 1.0K 5% 1/6W
R5513	401H5677	R,CARBON 1.5K 5% 1/2W
R5514	40373199	R,METAL 12K 5% 3W
R5515	401K5673	R,CARBON 1.0K 5% 1/6W
R5516	401K5681	R,CARBON 2.2K 5% 1/6W
R5517	401K5693	R,CARBON 6.8K 5% 1/6W
R5518	401K5693	R,CARBON 6.8K 5% 1/6W
R5519	40371197	R,METAL 10K 5% 1W
R5520	401K5735	R,CARBON 390K 5% 1/6W
R5521	40373155	R,METAL 180H 5% 3W
R5522	40373155	R,METAL 180H 5% 3W
R5523	40373155	R,METAL 180H 5% 3W
R5524	40373181	R,METAL 2.2K 5% 3W
R5525	40373181	R,METAL 2.2K 5% 3W
R5526	401G6109	R,CARBON 2.2H 5% 1/4W
R5527	40373111	R,METAL 2.7H 5% 3W
R5528	40373111	R,METAL 2.7H 5% 3W

SYMBOL	PARTS NO	DESCRIPTION
R5529	40373111	R.METAL 2.7H 5% 3W
R5530	401K5633	R.CARBON 22H 5% 1/6W
R5531	401G6109	R.CARBON 2.2H 5% 1/4W
R5532	401G6109	R.CARBON 2.2H 5% 1/4W
R5533	401H5681	R.CARBON 2.2K 5% 1/2W
R5534	40372137	R.METAL 33H 5% 2W
R5536	401K5713	R.CARBON 47K 5% 1/6W
R5537	401K5713	R.CARBON 47K 5% 1/6W
R5538	401K5697	R.CARBON 10K 5% 1/6W
R5539	401K5705	R.CARBON 22K 5% 1/6W
R5540	401K5697	R.CARBON 10K 5% 1/6W
R5541	401K5697	R.CARBON 10K 5% 1/6W
R5542	401K5705	R.CARBON 22K 5% 1/6W
R5543	401K5701	R.CARBON 15K 5% 1/6W
R5544	401K5701	R.CARBON 15K 5% 1/6W
R5545	401K5701	R.CARBON 15K 5% 1/6W
R5546	401K5701	R.CARBON 15K 5% 1/6W
R5547	401K5701	R.CARBON 15K 5% 1/6W
R5548	401K5697	R.CARBON 10K 5% 1/6W
R5549	401K5701	R.CARBON 15K 5% 1/6W
R5550	401K5701	R.CARBON 15K 5% 1/6W
R5553	401K5655	R.CARBON 180H 5% 1/6W
R5554	401K5655	R.CARBON 180H 5% 1/6W
R5556	40372173	R.METAL 1.0K 5% 2W
R5557	40372159	R.METAL 270H 5% 2W
R5558	40372159	R.METAL 270H 5% 2W
R5559	40371141	R.METAL 47H 5% 1W
R5560	40371141	R.METAL 47H 5% 1W
R5561	40371141	R.METAL 47H 5% 1W
R5562	40371141	R.METAL 47H 5% 1W
R5569	404C1734	R.METAL 360K 1% 1/6W
R5570	404C1721	R.METAL 100K 1% 1/6W
R5571	404C1726	R.METAL 160K 1% 1/6W
R5574	401K5693	R.CARBON 6.8K 5% 1/6W
R5575	404C1732	R.METAL 300K 1% 1/6W
R5577	404C1713	R.METAL 47K 1% 1/6W
R5578	404C1743	R.METAL 820K 1% 1/6W
R5580	401K5693	R.CARBON 6.8K 5% 1/6W
R5581B	401KE649	R.CARBON 100H 5% 1/6W
R5582	401K5649	R.CARBON 100H 5% 1/6W

SYMBOL	PARTS NO	DESCRIPTION
R8005	40372135	R.METAL 27H 5% 2W
R8035	40371163	R.METAL 390H 5% 1W
R805	40178159	R.CARBON 270H 5% 1/2W
R806	40405109	R.METAL 2.2H 5% 1/4W
R8103	40371139	R.METAL 39H 5% 1W
R8111	401H5661	R.CARBON 330H 5% 1/2W
R8112	40224189	R.WIRE 4.7K 5% 5W
R8113	40224191	R.WIRE 5.6K 5% 5W
R8114	40224192	R.WIRE 6.2K 5% 5W
R8115	40224285	R.WIRE 3.3K 5% 7W
R8116	40224285	R.WIRE 3.3K 5% 7W
R8117	40224285	R.WIRE 3.3K 5% 7W
R8122	40371139	R.METAL 39H 5% 1W
R8130	401H5661	R.CARBON 330H 5% 1/2W
R8131	40224189	R.WIRE 4.7K 5% 5W
R8132	40224191	R.WIRE 5.6K 5% 5W
R8133	40224192	R.WIRE 6.2K 5% 5W
R8134	40224285	R.WIRE 3.3K 5% 7W
R8135	40224285	R.WIRE 3.3K 5% 7W
R8136	40224285	R.WIRE 3.3K 5% 7W
R8141	40371139	R.METAL 39H 5% 1W
R8149	401H5661	R.CARBON 330H 5% 1/2W
R8150	40224189	R.WIRE 4.7K 5% 5W
R8151	40224191	R.WIRE 5.6K 5% 5W
R8152	40224192	R.WIRE 6.2K 5% 5W
R8153	40224285	R.WIRE 3.3K 5% 7W
R8154	40224285	R.WIRE 3.3K 5% 7W
R8155	40224285	R.WIRE 3.3K 5% 7W
R863	40405125	R.METAL 10H 5% 1/4W
R865	40405109	R.METAL 2.2H 5% 1/4W
R901	401H5649	R.CARBON 100H 5% 1/2W
R902	401H5673	R.CARBON 1.0K 5% 1/2W
R903	401H5649	R.CARBON 100H 5% 1/2W
R904	401H5673	R.CARBON 1.0K 5% 1/2W
R905	401H5649	R.CARBON 100H 5% 1/2W
R906	401H5673	R.CARBON 1.0K 5% 1/2W
R907	401H5673	R.CARBON 1.0K 5% 1/2W
R908	401H5721	R.CARBON 100K 5% 1/2W

SYMBOL	PARTS NO	DESCRIPTION
R5583	401K5649	R.CARBON 100H 5% 1/6W
R5584	401K5649	R.CARBON 100H 5% 1/6W
R5585	401K5649	R.CARBON 100H 5% 1/6W
R5586	401K5649	R.CARBON 100H 5% 1/6W
R5587	401K5649	R.CARBON 100H 5% 1/6W
R5588	401K5683	R.CARBON 2.7K 5% 1/6W
R5589	401K5649	R.CARBON 100H 5% 1/6W
R5590	401G6137	R.CARBON 33H 5% 1/4W
R5591	401K5713	R.CARBON 47K 5% 1/6W
R5592	401K5713	R.CARBON 47K 5% 1/6W
R5593	401K5713	R.CARBON 47K 5% 1/6W
R5594	401K5713	R.CARBON 47K 5% 1/6W
R5596	401G6109	R.CARBON 2.2H 5% 1/4W
R5597	40371155	R.METAL 180H 5% 1W
R5598	401K5633	R.CARBON 22H 5% 1/6W
R5599	401K5633	R.CARBON 22H 5% 1/6W
R5600	401K5633	R.CARBON 22H 5% 1/6W
R5604	40372137	R.METAL 33H 5% 2W
R5605	40178173	R.CARBON 1.0K 5% 1/2W
R5607	401K5625	R.CARBON 10H 5% 1/6W
R5608	401K5625	R.CARBON 10H 5% 1/6W
R5609	401C6679	R.CARBON 1.8K 5% 1/4W
R5610	404C1707	R.METAL 27K 1% 1/6W
R5618	40373333	R.METAL 0.33H 5% 3W
R5640	401K5743	R.CARBON 820K 5% 1/6W
R5641	401K5743	R.CARBON 820K 5% 1/6W
R5642	401K5743	R.CARBON 820K 5% 1/6W
R5643	401K5743	R.CARBON 820K 5% 1/6W
R5644	401K5743	R.CARBON 820K 5% 1/6W
R5645	401K5743	R.CARBON 820K 5% 1/6W
R5646	401K5743	R.CARBON 820K 5% 1/6W
R7308B	401K5690	R.CARBON 5.1K 5% 1/6W
R7310	40371155	R.METAL 180H 5% 1W
R7340	40372143	R.METAL 56H 5% 2W
R7341	40372143	R.METAL 56H 5% 2W
R7342	40372131	R.METAL 18H 5% 2W
R7343	40372131	R.METAL 18H 5% 2W
R7506	40405109	R.METAL 2.2H 5% 1/4W
R769	40371117	R.METAL 4.7H 5% 1W
R8004	40372135	R.METAL 27H 5% 2W

SYMBOL	PARTS NO	DESCRIPTION
R1301	40AA2005	R.CHIP 2.2H 5% 1/4W
R1302	40AA2133	R.CHIP 22H 5% 1/4E
R8107		
R8127		
R8108		
R8145		
R8126		
R8146		
R8169	40AA2153	R.CHIP 150H 5% 1/4W
R8171		
R8173		
R8059	40AA2161	R.CHIP 330H 5% 1/4W
R885		
R8061		
R886		
R8063		
R887		
R1127	40AA2165	R.CHIP 470H 5% 1/4W
R1128		
R1261	40AA2189	R.CHIP 4.7K 5% 1/4W
R763		
R764	40AA2197	R.CHIP 10K 5% 1/4W
R1027	40AA3000	R.CHIP 0.0H 5% 1/10W
R1030		
R1042		
R1086		
R1111		
R1420		
R7512		
R754		
R8170		
R1028		
R1040		
R1043		
R1087		
R1151		
R739		
R7513		
R8015		
R1029		
R1041		
R1085		
R1088		
R1264		
R745		
R753		
R8087		

SYMBOL	PARTS NO	DESCRIPTION
R7424 R844 R838 R841 R7209 R7260 R7333 R757 R8104 R8205 R7256 R7325 R7468 R758 R8123 R8208 R7257 R7329 R7469 R760 R8142 R8207 R831 R859 R883 R896 R832 R860 R884 R897 R833 R861 R895 R898 R7242 R7437 R893 R894	40AA3125 ↓ 40AA3133 ↓ 40AA3133 ↓ 40AA3143 40AA3146	R.CHIP 10H 5% 1/10W ↓ R.CHIP 22H 5% 1/10W ↓ R.CHIP 22H 5% 1/10W ↓ R.CHIP 56H 5% 1/10W R.CHIP 75H 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R7505 R7515 R7518 R7520 R7523 R8001 R8047 R809 R8124 R847 R854 R858 R901 R1084 R1095 R1100 R1107 R1113 R1116 R1120 R1137 R1141 R7207 R7255 R7304 R7339 R7418 R7441 R7452 R7464 R750 R751 R7516 R7519 R7521 R765 R8013 R8049 R8105 R8143 R850 R856 R899	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1080 R1093 R1096 R1101 R1108 R1114 R1118 R1121 R1138 R1410 R7231 R7258 R7305 R7401 R7436 R7442 R7456 R7466 R7504 R7514 R7517 R752 R7522 R766 R804 R8052 R812 R815 R853 R857 R900 R1082 R1094 R1099 R1102 R1112 R1115 R1119 R1136 R1139 R1411 R7254 R7259 R7336 R7414 R7440 R7443 R7460 R749	40AA3149 ↓	R.CHIP 100H 5% 1/10W ↓

SYMBOL	PARTS NO	DESCRIPTION
R734 R740 R736 R742 R738 R744 R8193 R8194 R8195 R7223 R8144 R8204 R8106 R8202 R8125 R8203 R8098 R7228 R7272 R7269 R7404 R7271 R7234 R8058 R8198 R7411 R8196 R855 R8031 R8197 R7232 R7325 R7331 R7462 R759 R7322 R7327 R7406 R755 R8044 R7323 R7330 R7454 R756 R7425 R874 R7224 R8064 R8060 R8062	40AA3153 ↓ 40AA3155 ↓ 40AA3157 ↓ 40AA3159 40AA3161 ↓ 40AA3165 ↓ 40AA3167 ↓ 40AA3169 ↓ 40AA3171	R.CHIP 150H 5% 1/10W ↓ R.CHIP 180H 5% 1/10W ↓ R.CHIP 220H 5% 1/10W ↓ R.CHIP 270H 5% 1/10W R.CHIP 330H 5% 1/10W ↓ R.CHIP 470H 5% 1/10W ↓ R.CHIP 560H 5% 1/10W ↓ R.CHIP 680H 5% 1/10W ↓ R.CHIP 820H 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R8048	40AA3172	R,CHIP 910H 5% 1/10W
R8051	↓	↓
R8057	40AA3173	R,CHIP 1.0K 5% 1/10W
R1083	↓	↓
R1101	↓	↓
R1104	↓	↓
R1109	↓	↓
R1122	↓	↓
R1129	↓	↓
R1132	↓	↓
R1135	↓	↓
R1185	↓	↓
R1223	↓	↓
R1245	↓	↓
R7206	↓	↓
R7247	↓	↓
R7270	↓	↓
R7286	↓	↓
R7314	↓	↓
R7328	↓	↓
R737	↓	↓
R741	↓	↓
R743	↓	↓
R747	↓	↓
R7510	↓	↓
R1089	↓	↓
R1092	↓	↓
R1105	↓	↓
R1110	↓	↓
R1124	↓	↓
R1130	↓	↓
R1133	↓	↓
R1142	↓	↓
R1186	↓	↓
R1225	↓	↓
R7204	↓	↓
R7235	↓	↓
R7266	↓	↓
R7273	↓	↓
R7287	↓	↓
R7319	↓	↓
R7332	↓	↓
R7407	↓	↓
R7413	↓	↓
R7431	↓	↓
R748	↓	↓
R779	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1263	40AA3181	R,CHIP 2.2K 5% 1/10W
R7309	↓	↓
R1265	↓	↓
R8086	40AA3183	R,CHIP 2.7K 5% 1/10W
R1403	↓	↓
R8159	40AA3185	R,CHIP 3.3K 5% 1/10W
R1303	↓	↓
R1305	↓	↓
R7276	↓	↓
R1202	↓	↓
R7426	↓	↓
R7465	↓	↓
R7559	↓	↓
R8020	↓	↓
R851	↓	↓
R877	↓	↓
R880	↓	↓
R1208	↓	↓
R7451	↓	↓
R7470	↓	↓
R8018	↓	↓
R845	↓	↓
R872	↓	↓
R878	↓	↓
R1288	↓	↓
R7457	↓	↓
R7472	↓	↓
R8019	↓	↓
R848	↓	↓
R875	↓	↓
R879	↓	↓
R1230	40AA3187	R,CHIP 3.9K 5% 1/10W
R8069	↓	↓
R8095	↓	↓
R1304	↓	↓
R8072	↓	↓
R8066	↓	↓
R8084	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1090	↓	↓
R1103	↓	↓
R1106	↓	↓
R1117	↓	↓
R1125	↓	↓
R1131	↓	↓
R1134	↓	↓
R1184	↓	↓
R1219	↓	↓
R1238	↓	↓
R7205	↓	↓
R7236	↓	↓
R7267	↓	↓
R7285	↓	↓
R7288	↓	↓
R7324	↓	↓
R735	↓	↓
R7409	↓	↓
R7428	↓	↓
R746	↓	↓
R7509	↓	↓
R8021	40AA3173	R,CHIP 1.0K 5% 1/10W
R8039	↓	↓
R8082	↓	↓
R870	↓	↓
R8045	↓	↓
R8186	↓	↓
R8081	↓	↓
R867	↓	↓
R1215	40AA3175	R,CHIP 1.2K 5% 1/10W
R7429	40AA3177	R,CHIP 1.5K 5% 1/10W
R876	↓	↓
R7471	↓	↓
R873	↓	↓
R1173	40AA3179	R,CHIP 1.8K 5% 1/10W
R1249	↓	↓
R1174	↓	↓
R7335	↓	↓
R1175	↓	↓
R7338	↓	↓
R7241	40AA3180	R,CHIP 2.0K 5% 1/10W
R7290	↓	↓
R7293	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1267	40AA3189	R,CHIP 4.7K 5% 1/10W
R7289	↓	↓
R7316	↓	↓
R8038	↓	↓
R811	↓	↓
R840	↓	↓
R866	↓	↓
R1415	↓	↓
R7291	↓	↓
R8002	↓	↓
R808	↓	↓
R814	↓	↓
R843	↓	↓
R1433	↓	↓
R7307	↓	↓
R8024	↓	↓
R8083	↓	↓
R837	↓	↓
R864	↓	↓
R7238	40AA3190	R,CHIP 5.1K 5% 1/10W
R7308	↓	↓
R7246	↓	↓
R7280	40AA3191	R,CHIP 5.6K 5% 1/10W
R1177	↓	↓
R7337	↓	↓
R7455	↓	↓
R8070	↓	↓
R8178	↓	↓
R834	↓	↓
R7313	↓	↓
R7427	↓	↓
R7463	↓	↓
R8073	↓	↓
R8180	↓	↓
R7334	↓	↓
R7435	↓	↓
R8067	↓	↓
R8176	↓	↓
R820	↓	↓
R1203	40AA3193	R,CHIP 6.8K 5% 1/10W
R1407	↓	↓
R7410	↓	↓
R8079	40AA3193	R,CHIP 6.8K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1228 R7403 R8043 R7230 R7415 R7296 R8034 R1008 R1018 R1025 R1200 R1209 R1226 R1257 R1250 R1250 R1293 R1402 R1418 R7208 R7250 R7255 R7302 R7315 R7402 R7417 R7423 R8017 R807 R8095 R813 R8152 R8174 R842 R852 R869 R888 R1016 R1019 R1081 R1204 R1216 R1229 R1258 R1290 R1297	40AA3195 ↓ 40AA3197 ↓	R,CHIP 8.2K 5% 1/10W ↓ R,CHIP 10K 5% 1/10W ↓

SYMBOL	PARTS NO	DESCRIPTION
R1189 R7430 R8012 R8093 R8179 R1416 R8010 R8091 R8175 R1419 R8011 R8092 R1777 R8177 R1180 R7408 R1227 R8003 R1405 R8006 R8056 R1247 R1140 R1179 R1271 R1274 R1277 R1281 R1285 R1307 R1435 R1145 R1262 R1272 R1275 R1279 R1282 R1286 R1310 R1436 R1147 R1270 R1273 R1276 R1280 R1284 R1287 R1412 R7511	40AA3199 ↓ 40AA3201 ↓ 40AA3201 40AA3203 40AA3205 ↓	R,CHIP 12K 5% 1/10W ↓ R,CHIP 15K 5% 1/10W ↓ R,CHIP 15K 5% 1/10W R,CHIP 18K 5% 1/10W R,CHIP 22K 5% 1/10W ↓

SYMBOL	PARTS NO	DESCRIPTION
R1413 R1431 R7229 R7253 R7268 R7303 R7317 R7405 R7419 R7508 R8032 R8090 R8097 R8158 R8168 R836 R846 R862 R881 R889 R1017 R1024 R1183 R1206 R1224 R1256 R1259 R1291 R1401 R1417 R705 R7237 R7264 R7301 R7306 R7318 R7416 R7422 R778 R8033 R8094 R810 R8160 R8172 R839 R849 R868 R882 R890	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1437 R8040 R7279 R891 R8016 R1409 R8042 R1425 R8085 R8014 R1432 R1438 R8080 R1001 R1004 R1011 R1015 R1022 R1182 R1311 R1002 R1005 R1012 R1020 R1023 R1201 R8041 R1003 R1008 R1013 R1021 R1181 R1289 R892 R1153 R8068 R8129 R1154 R8071 R8148 R8065 R8110 R1251 R1253 R7507 R8054	40AA3207 ↓ 40AA3209 ↓ 40AA3211 ↓ 40AA3213 ↓ 40AA3215 ↓ 40AA3219 40AA3221 40AA3225	R,CHIP 27K 5% 1/10W ↓ R,CHIP 33K 5% 1/10W ↓ R,CHIP 39K 5% 1/10W ↓ R,CHIP 47K 5% 1/10W ↓ R,CHIP 56K 5% 1/10W ↓ R,CHIP 82K 5% 1/10W R,CHIP 100K 5% 1/10W ↓ R,CHIP 150K 5% 1/10W



SYMBOL	PARTS NO	DESCRIPTION
R704 R719 R730 R733 R762 R816 R819 R826 R835 R706 R720 R731 R7433 R767 R817 R822 R828 R707 R721 R732 R761 R768 R818 R824 R830 R8109 R8128 R8147 R7283 R7432 R1231 R7274 R7278 R7275 R7277 R801 R821 R827 R802 R823 R829 R803 R825	40AA3229 ↓ 40AA3233 ↓ 40AA3243 ↓ 40AA3245 40AA3257 ↓ 40AB2146	R.CHIP 220K 5% 1/10W ↓ R.CHIP 330K 5% 1/10W ↓ R.CHIP 820K 5% 1/10W ↓ R.CHIP 1.0M 5% 1/10W R.CHIP 3.3M 5% 1/10W ↓ R.CHIP 75H 1% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R1408 R1235 R1232 R7312 R1241 R1242 R1250 R1252 R7311 R1213 R1155	40AB3199 40AB3201 40AB3203 ↓ 40AB3205 ↓ 40AB3209 40AB3211 40AB3217 40AB3220 40AB3231	R.CHIP 12K 1% 1/10W R.CHIP 15K 1% 1/10W R.CHIP 18K 1% 1/10W ↓ R.CHIP 22K 1% 1/10W ↓ R.CHIP 33K 1% 1/10W R.CHIP 39K 1% 1/10W R.CHIP 68K 1% 1/10W R.CHIP 91K 1% 1/10W R.CHIP 270K 1% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R701 R716 R702 R717 R703 R718 R7450 R7458 R7240 R7239 R7244 R7243 R7434 R1212 R8046 R8050 R8053 R1246 R7248 R7251 R7225 R7439 R7249 R7446 R7252 R7226 R7467 R7448 R7449 R8023 R7445 R7447 R1222 R1233 R7281 R8199 R8200 R8201 R7438 R1152 R1292 R1237 R1217 R1266	40AB3146 ↓ 40AB3157 ↓ 40AB3159 ↓ 40AB3165 40AB3167 ↓ 40AB3170 40AB3172 ↓ 40AB3173 ↓ 40AB3175 ↓ 40AB3177 ↓ 40AB3181 40AB3185 ↓ 40AB3187 ↓ 40AB3188 ↓ 40AB3189 40AB3191 40AB3193 40AB3195 40AB3197	R.CHIP 75H 1% 1/10W ↓ R.CHIP 220H 1% 1/10W ↓ R.CHIP 270H 1% 1/10W ↓ R.CHIP 470H 1% 1/10W R.CHIP 560H 1% 1/10W ↓ R.CHIP 750H 1% 1/10W R.CHIP 910H 1% 1/10W ↓ R.CHIP 1.0K 1% 1/10W ↓ R.CHIP 1.2K 1% 1/10W ↓ R.CHIP 1.5K 1% 1/10W ↓ R.CHIP 2.2K 1% 1/10W R.CHIP 3.3K 1% 1/10W ↓ R.CHIP 3.9K 1% 1/10W ↓ R.CHIP 4.3K 1% 1/10W ↓ R.CHIP 4.7K 1% 1/10W R.CHIP 5.6K 1% 1/10W R.CHIP 6.8K 1% 1/10W R.CHIP 8.2K 1% 1/10W R.CHIP 10K 1% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
*** CAPACITORS ***		
C1003 C1004 C1005 C1007 C1008	42AA2726 42CA1416 42CA1416 42AA2726 430B9032	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 10PF C.CERAMIC 50V 10PF C.CERAMIC 50V 0.01UF C.ELEC 16V 470UF
C1009 C101 C1010 C1011 C1012	42AA2726 430C0047 42AA2726 42AA2726 42AA2726	C.CERAMIC 50V 0.01UF C.ELEC 16V 47UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF
C1013 C1014 C1020 C1021 C1023	42AA2726 42CA1432 42CA1416 42CA1416 42AA2726	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 47PF C.CERAMIC 50V 10PF C.CERAMIC 50V 10PF C.CERAMIC 50V 0.01UF
C1024 C1025 C1026 C1027 C1028	42AA2726 42AA2726 42AA2726 430B9025 430B9025	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.ELEC 16V 10UF C.ELEC 16V 10UF
C1029 C1030 C1031 C1032 C1050	430B9025 430B9025 42AA2726 42AA2726 42AA2726	C.ELEC 16V 10UF C.ELEC 16V 10UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF C.CERAMIC 50V 0.01UF
C1051 C1053 C1054 C1059 C1060	42AA2726 42CA1432 42CA1432 42CA1432 42CA1432	C.CERAMIC 50V 0.01UF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF
C1061 C1062 C1063 C1064 C1065	42CA1432 42CA1432 42CA1432 42CA1432 42CA1432	C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF
C1066 C1067 C1068	42CA1432 42CA1432 42CA1432	C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF C.CERAMIC 50V 47PF







SYMBOL	PARTS NO	DESCRIPTION
C8046	42AA2721	C.CERAMIC 50V 0.1UF
C8047	42AA2721	C.CERAMIC 50V 0.1UF
C8048	430B9042	C.ELEC 25V 100UF
C8049	430B9038	C.ELEC 25V 10UF
C805	43CC1345	C.ELEC 16V 33UF
C8050	430B8178	C.ELEC 50V 4.7UF
C8051	430B8176	C.ELEC 50V 2.2UF
C8052	42AA2721	C.CERAMIC 50V 0.1UF
C8053	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8054	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8055	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8056	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8057	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8058	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8059	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C806	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8060	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8061	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8062	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C807	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C808	43CC1345	C.ELEC 16V 33UF
C809	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C810	43CC1350	C.ELEC 25V 3.3UF
C8102	42CA1458	C.CERAMIC 50V 560PF
C8104	42AA2721	C.CERAMIC 50V 0.1UF
C8105	430B9552	C.ELEC 250V 1.0UF
C8106	42840105	C.METAL FILM 250V 1UF
C811	42AA2721	C.CERAMIC 50V 0.1UF
C8111	42AA2721	C.CERAMIC 50V 0.1UF
C8112	430B9552	C.ELEC 250V 1.0UF
C8113	42840105	C.METAL FILM 250V 1UF
C8118	42AA2721	C.CERAMIC 50V 0.1UF
C8119	430B9552	C.ELEC 250V 1.0UF
C812	42AA2721	C.CERAMIC 50V 0.1UF
C8120	42840105	C.METAL FILM 250V 1UF
C8122	4201J575	C.CERAMIC 500V 0.01UF
C8123	430B9556	C.ELEC 250V 10UF
C8124	42AA2721	C.CERAMIC 50V 0.1UF
C8125	4201J575	C.CERAMIC 500V 0.01UF
C8126	430B9556	C.ELEC 250V 10UF

SYMBOL	PARTS NO	DESCRIPTION
C841	42AA2721	C.CERAMIC 50V 0.1UF
C842	42AA2721	C.CERAMIC 50V 0.1UF
C844	42AA2721	C.CERAMIC 50V 0.1UF
C845	43KB7523	C.ELEC 25V 33UF
C846	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C847	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C848	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C901	421D6009	C.CERAMIC 25V 0.1UF
C902	42034143	C.CERAMIC 2KV 1000PF
C904	42019175	C.CERAMIC 2KV 0.01UF

SYMBOL	PARTS NO	DESCRIPTION
C8128	430B6555	C.ELEC 250V 4.7UF
C8129	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C813	43CC1350	C.ELEC 25V 3.3UF
C8130	430B6555	C.ELEC 250V 4.7UF
C8131	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8132	430B6555	C.ELEC 250V 4.7UF
C8133	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8138	42CA1416	C.CERAMIC 50V 10PF
C8139	42CA1416	C.CERAMIC 50V 10PF
C814	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8140	42CA1416	C.CERAMIC 50V 10PF
C8141	42AA2721	C.CERAMIC 50V 0.1UF
C8142	42AA2721	C.CERAMIC 50V 0.1UF
C8143	42AA2721	C.CERAMIC 50V 0.1UF
C815	43CC1345	C.ELEC 16V 33UF
C816	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C817	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C818	43CC1345	C.ELEC 16V 33UF
C819	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C820	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C821	43CC1345	C.ELEC 16V 33UF
C822	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C823	42AA2721	C.CERAMIC 50V 0.1UF
C824	43KB7523	C.ELEC 25V 33UF
C825	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C826	43CC1345	C.ELEC 16V 33UF
C827	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C828	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C829	43CC1345	C.ELEC 16V 33UF
C830	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C831	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C832	43CC1345	C.ELEC 16V 33UF
C833	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C834	42AA2721	C.CERAMIC 50V 0.1UF
C835	43KB7452	C.ELEC CHIP 25V 33UF
C836	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C837	43KB7538	C.ELEC 16V 100UF
C838	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C839	43KB7515	C.ELEC 16V 10UF
C840	43KB7538	C.ELEC 16V 100UF

4. XM-2960G

SYMBOL	PARTS NO	DESCRIPTION
*** CRT & TUNER ***		
CRT	33029036	CRT-M68LMF256X
*** ICS ***		
IC1003	370EC030	MOS HD74HC573FP-EL
IC1004	37058820	MOS UPD78P018FYCW
IC1005	370E3275	MOS HD74HC138FPTL
IC1006	37058805	MOS 24LC08B/P
IC1007	37058122	MOS UPD71055C
IC1008	371E1568	IC PST5296-2(T) (3.3V RES)
IC1010	37058829	MOS UPD78P014YCW
IC1011	37058562	MOS MAX232CPE (TRNSMIT)
IC1012	37058111	MOS UPD71051C
IC1013	37058111	MOS UPD71051C
IC1014	370E3306	MOS UPD74HC32GS-T2
IC1015	37056122	MOS UPD71055C
IC1022	37005160	IC MCT812CT (JBL1045CT)
IC1023	37005164	IC MCT912CT (REG)
IC1024	37005228	IC PQ05RF1 (REG)
IC1030	37009037	IC UPC1885CT
IC1031	370E3425	MOS UPD74HC221AG-T1
IC1032	37101395	IC BA10324
IC1033	37011320	IC LA6500
IC1301	37001086	IC TA8211AH (AMP)
IC1302	37001075	IC UPC1406HA (DC-CONT)
IC1401	37011068	IC UPC4558C (OP AMP)
IC1402	37006023	IC STK792-110
IC1403	37005315	IC NJM7818FA
IC1404	37005316	IC NJM7918FA
IC2002	37056616	IC BA10358
IC5003	370K0011	IC UPC78L12T-E2
IC5005	37058804	MOS M62353P
IC5006	37011363	IC M52723SP
IC5501	37056616	IC BA10358
IC5502	37101395	IC BA10324
IC5503	37058477	MOS UPD6345C (DRIVER)
IC5504	37005085	IC UPC78L12J
IC701	37011361	IC MM1313AD (AV-SW)
IC7202	370AA009	IC MM1112XF (V-SW)

SYMBOL	PARTS NO	DESCRIPTION
IC7205	370AA008	IC MM1111XF (V-SW)
IC7208	370AA008	IC MM1111XF (V-SW)
IC7209	37011342	IC TA8772AN (1H DL)
IC7210	37003058	IC TA8880CN
IC7211	370E3413	MOS UPD4538BG-T2
IC7213	37903282	IC UPC7805AHF
IC7214	37005093	IC NJM7809FA
IC7401	37RAA004	IC CXA1688M-T6
IC7402	37R58088	MOA CXD2024AQ
IC7404	37011299	IC LA7950 (50/60 SW)
IC8001	37010006	IC M52320SP
IC8002	370EH018	MOS M62358FP-75BC
IC8004	37005256	IC UPC7812AHF (REG)
IC8005	37903282	IC UPC7805AHF
IC801	37RED061	MOS 24LC21T-1/SN
IC802	370E6009	MOS UPD4068BG (T2)
IC803	37011018	IC UPC311C (COMP)
IC804	37056615	IC BA10393
IC805	37011018	IC UPC311C (COMP)
IC8101	37RAA010	IC AD8013AR-14-REEL
RV101	37058792	PHOTO SENSOR SBX8025A-F
*** TRANSISTORS ***		
Q1001	35CB0015	TR 2SC1623-T2B(180°) L5
Q1020	35CB0015	TR 2SC1623-T2B(180°) L5
Q1021	35CB0015	TR 2SC1623-T2B(180°) L5
Q1023	35CB0015	TR 2SC1623-T2B(180°) L5
Q1026	35EB0002	TR FA1A4M-T2B(180°)
Q1030	35CB0015	TR 2SC1623-T2B(180°) L5
Q1033	35CB0015	TR 2SC1623-T2B(180°) L5
Q1034	35CB0015	TR 2SC1623-T2B(180°) L5
Q1035	35CB0015	TR 2SC1623-T2B(180°) L5
Q1038	35CB0015	TR 2SC1623-T2B(180°) L5
Q1044	35EB0002	TR FA1A4M-T2B(180°)
Q1050	35CB0015	TR 2SC1623-T2B(180°) L5
Q1051	35CB0015	TR 2SC1623-T2B(180°) L5
Q1052	35EB0002	TR FA1A4M-T2B(180°)
Q1053	35EB0026	TR FA1L4M-T2B
Q1055	35EB0026	TR FA1L4M-T2B









SYMBOL	PARTS NO	DESCRIPTION
L101 L1010 L1020	610E1743 610F7514 610F7529	COIL,FILTER 1500UH COIL,FILTER 6.6UH COIL,FILTER 100UH
L5001 L5003 L5004 L5005 L5501	610G0233 61099118 61099140 61099140 60917073	FILTER CHOKE PJ8T-470K FILTER COIL COIL,FILTER 100L P110 COIL,FILTER 100L P110 COIL,H.LIN
L5502 L5503 L5504 L5505 L7201	60917073 61099126 61099141 61099118 610E1710	COIL,H.LIN COIL,FILTER 330UH COIL,CHOKE FILTER COIL COIL,FILTER 2.7UH
L7202 L7203 L7204 L7205 L7206	610E1727 610E1728 610E1720 610E1725 610E1725	COIL,FILTER 68UH COIL,FILTER 82UH COIL,FILTER 18UH COIL,FILTER 47UH COIL,FILTER 47UH
L7207 L7208 L7209 L7210 L7211	610E1725 610E1725 610E1725 610E1723 610E1724	COIL,FILTER 47UH COIL,FILTER 47UH COIL,FILTER 47UH COIL,FILTER 33UH COIL,FILTER 39UH
L7212 L7213 L7401 L7402 L7403	610E1725 610E1725 610E1731 610E1733 610E1733	COIL,FILTER 47UH COIL,FILTER 47UH COIL,FILTER 150UH COIL,FILTER 220UH COIL,FILTER 220UH
L7404 L8001 L8101 L8103 L8104	610E1733 610E1705 610E1705 610E1746 610E1705	COIL,FILTER 220UH COIL,FILTER 1.0UH COIL,FILTER 1.0UH COIL,FILTER 0.22UH COIL,FILTER 1.0UH
L8106 L8107 L8109 L901 L902	610E1746 610E1705 610E1746 610E1750 610E1750	COIL,FILTER 0.22UH COIL,FILTER 1.0UH COIL,FILTER 0.22UH COIL,FILTER 0.47UH COIL,FILTER 0.47UH
L903	610E1750	COIL,FILTER 0.47UH

SYMBOL	PARTS NO	DESCRIPTION
T5503 T5504 T5505 T5506	60917089 60917089 60917089 60917089	COIL,LIN COIL,LIN COIL,LIN COIL,LIN
WI DEG X1003 X7203 X7401	61329102 61111015 61111805 61111015	COIL,DEGAUSSING CERAMIC OSC CSB500F2 CERAMIC OSC CSB503F30 CERAMIC OSC CSB500F2

\*\*\* PWB ASSYS \*\*\*

933D4DA2 933D4DB2 933D4G02 933J2TA2 933J2TB2 933J2F02 933D4H02	DEF PWB ASSY SW-LED PWB ASSY V-CRT PWB ASSY VIDEO I/O PWB ASSY RGB OUT. PWB ASSY CPU/OSC PWB ASSY HV PWB ASSY
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\*\*\* ELECTRICAL PARTS & MISCELLANEOUS PARTS \*\*\*

31710044 31710045 63010112 68043001 70800033	FAN MOTOR FAN MOTOR SPEAKER 90*55 16H 5W ALN BATTERY, DRY CELL SUM-3 LINE CORD	
79644641 79644841 48007486 39030098 39030098	RD-346E POWER UNIT DEFLECTION YOKE R, NETWORK 4*4.7K 5% 1/8W R, NETWORK 4*4.7K 5% 1/8W	
D.Y FR5501 FR5502		
1C2001 M701 M703 M704 M705	79644661 71123500 70057312 70057008 71123500	HV CONTROL UNIT BOARD,BNC SOCKET,DIN 4P TCS7949 DIN SOCKET 4P BOARD,BNC
M707 M708 M709 M710 M711	70057312 70057008 70051827 70051827 70051827	SOCKET,DIN 4P TCS7949 DIN SOCKET 4P JACK,PIN 4P JPJ0918 JACK,PIN 4P JPJ0918 JACK,PIN 4P JPJ0918
M721 M7501 M7502	71199046 70056200 70056200	PUSH TERMINAL (4P) D-SUB SOCKET (15PIN) D-SUB SOCKET (15PIN)

SYMBOL	PARTS NO	DESCRIPTION
M7503 M7504	70505027 70505027	HEADPHONE JACK HEADPHONE JACK
M801 M802 M803 SG/CRT SG5001	70056200 70056475 71123501 70032272 66706003	D-SUB SOCKET (15PIN) CONNECTOR, D-SUB BOARD,BNC SG/CRT SOCKET SPARK GAP 2.0KV
SG901 SG902 SG903 SG904 SG905	66706001 66706001 66706001 66706001 66706001	SPARK GAP 1.2KV SPARK GAP 1.2KV SPARK GAP 1.2KV SPARK GAP 1.2KV SPARK GAP 1.2KV
SK1004 SK1006 SK1010 X1001 X1002	70102924 70102141 70102924 64098039 640J9218	SOCKET,IC 64P SOCKET,IC 8P SOCKET,IC 64P X'TAL (10.000MHZ) X'TAL OSC 9.8304MHZ
X7201 X7202 X7402 X7403	64003027 64003022 64099203 64099202	X'TAL 4.43MHZ (NDK) X'TAL OSC 3.58MHZ X'TAL OSC 14.318MHZ X'TAL OSC 17.73MHZ (KDS)

\*\*\* APPEARANCE PARTS \*\*\*

70301534 70301536 70301537 24B15751	RUBBER WEDGE FERRITE SHEET FERRITE SHEET(60MM) LED SPACER(H95)
24C00111 24DT6451 24DT6171 24D08453 24D10121	CLAMPER,WIRE (D15) FRONT CABINET ASSY BACK COVER ASSY CABINET FRONT PANEL
24D10131 24F25001 24F25011 24F25021 24F27761	BACK COVER ADHESIVE PIECE A ADHESIVE PIECE B ADHESIVE PIECE C INDICATOR (POW)
24F27801 24F27931 24GT1381 24G04461 24G04471	HANDLE CHASSIS BASE BUTTON (POW) ASSY BUTTON (CTL) BUTTON (POW)

SYMBOL	PARTS NO	DESCRIPTION
24H25771 24H25781 24H25791 24J06871 24J07371	SIDE FRAME(R) SIDE FRAME(L) BACK FRAME RUBBER FOOT A CUSHION SHEET (17*140*0.5)	
24J07382 24J07442 24J12321 24K23081 24K23091	CUSHION SHEET (90*22*0.35) SHEET (FRONT) CUSHION (30*27*17) INLAY (TERMINAL) INLAY (SENSOR)	
24L37871	SPEC PLATE	

\*\*\* PRINTED & PACKING MATERIALS \*\*\*

24806961 24813191 24MU1071 24MU1081 24MU2111 24M09081 78408481	BAG,POLYETHYLENE (270*370) BAG,POLYETHYLENE (150*370) SPACER (T) SPACER (B) CARTON BOX BAG, PROTECTION USER'S MANUAL
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\*\*\* RESISTORS \*\*\*

R1150 R1170 R1171 R1172 R1188	401G6109 40178135 40178135 40178135 40372137	R,CARBON 2.2H 5% 1/4W R,CARBON 27H 5% R,CARBON 27H 5% R,CARBON 27H 5% R,METAL 33H 5% 2W
R1210 R1211	401H5661 401G6109	R,CARBON 330H 5% 1/2W R,CARBON 2.2H 5% 1/4W





SYMBOL	PARTS NO	DESCRIPTION		
R7424	40AA3125	R,CHIP 10H 5% 1/10W		
R844				
R838				
R841				
R7209				
R7260				
R7333				
R757				
R8104				
R8205				
R7256	40AA3133	R,CHIP 22H 5% 1/10W		
R7325				
R7468				
R758				
R8123				
R8206				
R7257				
R7329				
R7469				
R760				
R8142	40AA3133	R,CHIP 22H 5% 1/10W		
R8207				
R831				
R859				
R883				
R896				
R832				
R860				
R884				
R897				
R833	40AA3143	R,CHIP 56H 5% 1/10W		
R861				
R895				
R898				
R7242				
R7437				
R893				
R894				
			40AA3146	R,CHIP 75H 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R7505		
R7515		
R7518		
R7520		
R7523		
R8001		
R8047		
R809		
R8124		
R847		
R854		
R858		
R901		
R1084		
R1095		
R1100		
R1107		
R1113		
R1116		
R1120		
R1137		
R1141		
R7207		
R7255		
R7304		
R7339		
R7418		
R7441		
R7452		
R7464		
R750		
R751		
R7516		
R7519		
R7521		
R755		
R8013		
R8049		
R8105		
R8143		
R850		
R856		
R899		

SYMBOL	PARTS NO	DESCRIPTION
R1080	40AA3149	R,CHIP 100H 5% 1/10W
R1093		
R1096		
R1101		
R1108		
R1114		
R1118		
R1121		
R1138		
R1410		
R7231		
R7258		
R7305		
R7401		
R7436		
R7442		
R7456		
R7466		
R7504		
R7514		
R7517		
R752		
R7522		
R766		
R804		
R8052		
R812		
R815		
R853		
R857		
R900		
R1082		
R1084		
R1094		
R1099		
R1102		
R1112		
R1115		
R1119		
R1136		
R1139		
R1411		
R7254		
R7259		
R7336		
R7414		
R7440		
R7443		
R7460		
R749		

SYMBOL	PARTS NO	DESCRIPTION
R734	40AA3153	R,CHIP 150H 5% 1/10W
R740		
R736		
R742		
R738		
R744		
R8193		
R8194		
R8195		
R7223		
R8144	40AA3155	R,CHIP 180H 5% 1/10W
R8204		
R8106		
R8202		
R8125		
R8203		
R8098		
R7228		
R7272		
R7269		
R7404	40AA3157	R,CHIP 220H 5% 1/10W
R7271		
R7234		
R8058		
R8198		
R7411		
R8196		
R855		
R8031		
R8197		
R7232	40AA3159	R,CHIP 270H 5% 1/10W
R7326		
R7331		
R7462		
R759		
R7322		
R7327		
R7406		
R755		
R8044		
R7323	40AA3161	R,CHIP 330H 5% 1/10W
R7330		
R7454		
R756		
R7425		
R874		
R7224		
R8064		
R8060		
R8062		
R7271	40AA3165	R,CHIP 470H 5% 1/10W
R7234		
R8058		
R8198		
R7411		
R8196		
R855		
R8031		
R8197		
R7232		
R7326	40AA3167	R,CHIP 560H 5% 1/10W
R7331		
R7462		
R759		
R7322		
R7327		
R7406		
R755		
R8044		
R7323		
R7330	40AA3169	R,CHIP 680H 5% 1/10W
R7454		
R756		
R7425		
R874		
R7224		
R8064		
R8060		
R8062		
R8062		
R7271	40AA3171	R,CHIP 820H 5% 1/10W
R7234		
R8058		
R8198		
R7411		
R8196		
R855		
R8031		
R8197		
R7232		

SYMBOL	PARTS NO	DESCRIPTION
R8048	40AA3172	R,CHIP 910H 5% 1/10W
R8051	↓	↓
R8057	↓	↓
R1083	40AA3173	R,CHIP 1.0K 5% 1/10W
R1091	↓	↓
R1104	↓	↓
R1109	↓	↓
R1122	↓	↓
R1129	↓	↓
R1132	↓	↓
R1135	↓	↓
R1185	↓	↓
R1223	↓	↓
R1245	↓	↓
R7206	↓	↓
R7247	↓	↓
R7270	↓	↓
R7286	↓	↓
R7314	↓	↓
R7328	↓	↓
R737	↓	↓
R741	↓	↓
R743	↓	↓
R747	↓	↓
R7510	↓	↓
R1089	↓	↓
R1092	↓	↓
R1105	↓	↓
R1110	↓	↓
R1124	↓	↓
R1130	↓	↓
R1133	↓	↓
R1142	↓	↓
R1186	↓	↓
R1225	↓	↓
R7204	↓	↓
R7235	↓	↓
R7266	↓	↓
R7273	↓	↓
R7287	↓	↓
R7319	↓	↓
R7332	↓	↓
R7407	↓	↓
R7413	↓	↓
R7431	↓	↓
R748	↓	↓
R779	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1263	40AA3181	R,CHIP 2.2K 5% 1/10W
R7309	↓	↓
R1265	↓	↓
R8086	↓	↓
R1403	↓	↓
R8159	↓	↓
R1303	40AA3183	R,CHIP 2.7K 5% 1/10W
R1305	↓	↓
R7276	↓	↓
R1202	40AA3185	R,CHIP 3.3K 5% 1/10W
R7426	↓	↓
R7465	↓	↓
R7559	↓	↓
R8020	↓	↓
R851	↓	↓
R877	↓	↓
R880	↓	↓
R1208	↓	↓
R7451	↓	↓
R7470	↓	↓
R8018	↓	↓
R845	↓	↓
R872	↓	↓
R878	↓	↓
R1288	↓	↓
R7457	↓	↓
R7472	↓	↓
R8019	↓	↓
R848	↓	↓
R875	↓	↓
R879	↓	↓
R1230	40AA3187	R,CHIP 3.9K 5% 1/10W
R8069	↓	↓
R8096	↓	↓
R1304	↓	↓
R8072	↓	↓
R8066	↓	↓
R8084	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1090	↓	↓
R1103	↓	↓
R1106	↓	↓
R1117	↓	↓
R1125	↓	↓
R1131	↓	↓
R1134	↓	↓
R1184	↓	↓
R1219	↓	↓
R1238	↓	↓
R7205	↓	↓
R7236	↓	↓
R7267	↓	↓
R7285	↓	↓
R7288	↓	↓
R7324	↓	↓
R735	↓	↓
R7409	↓	↓
R7428	↓	↓
R746	↓	↓
R7509	↓	↓
R8021	↓	↓
R8039	40AA3173	R,CHIP 1.0K 5% 1/10W
R8082	↓	↓
R870	↓	↓
R8045	↓	↓
R8186	↓	↓
R8081	↓	↓
R867	↓	↓
R1215	40AA3175	R,CHIP 1.2K 5% 1/10W
R7429	40AA3177	R,CHIP 1.5K 5% 1/10W
R876	↓	↓
R7471	↓	↓
R873	↓	↓
R1173	40AA3179	R,CHIP 1.8K 5% 1/10W
R1249	↓	↓
R1174	↓	↓
R7335	↓	↓
R1175	↓	↓
R7338	↓	↓
R7241	40AA3180	R,CHIP 2.0K 5% 1/10W
R7290	↓	↓
R7293	↓	↓

SYMBOL	PARTS NO	DESCRIPTION
R1267	40AA3189	R,CHIP 4.7K 5% 1/10W
R7289	↓	↓
R7316	↓	↓
R8038	↓	↓
R811	↓	↓
R840	↓	↓
R866	↓	↓
R1415	↓	↓
R7291	↓	↓
R8002	↓	↓
R808	↓	↓
R814	↓	↓
R843	↓	↓
R1433	↓	↓
R7307	↓	↓
R8024	↓	↓
R8083	↓	↓
R837	↓	↓
R864	↓	↓
R7238	40AA3190	R,CHIP 5.1K 5% 1/10W
R7308	↓	↓
R7246	↓	↓
R7280	↓	↓
R1177	40AA3191	R,CHIP 5.6K 5% 1/10W
R7337	↓	↓
R7455	↓	↓
R8070	↓	↓
R8178	↓	↓
R834	↓	↓
R7313	↓	↓
R7427	↓	↓
R7463	↓	↓
R8073	↓	↓
R8180	↓	↓
R7334	↓	↓
R7435	↓	↓
R8067	↓	↓
R8176	↓	↓
R820	↓	↓
R1203	40AA3193	R,CHIP 6.8K 5% 1/10W
R1407	↓	↓
R7410	↓	↓
R8079	40AA3193	R,CHIP 6.8K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1228 R7403 R8043 R7230 R7415 R7296 R8034 R1008 R1018 R1025 R1200 R1209 R1226 R1257 R1260 R1293 R1402 R1418 R7208 R7250 R7265 R7302 R7315 R7402 R7417 R7423 R8017 R807 R8095 R813 R8162 R8174 R842 R852 R869 R888 R1016 R1019 R1081 R1204 R1216 R1229 R1258 R1290 R1297	40AA3195  40AA3197	R.CHIP 8.2K 5% 1/10W  R.CHIP 10K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1189 R7430 R8012 R8093 R8179 R1416 R8010 R8091 R8175 R1419 R8011 R8092 R8177 R1180 R7408 R1227 R8003 R1405 R8006 R8056 R1247 R1140 R1179 R1271 R1274 R1277 R1281 R1285 R1307 R1435 R1145 R1262 R1272 R1275 R1279 R1282 R1286 R1310 R1436 R1147 R1270 R1273 R1276 R1280 R1284 R1287 R1412 R7511	40AA3199  40AA3201  40AA3201 40AA3203 40AA3205	R.CHIP 12K 5% 1/10W  R.CHIP 15K 5% 1/10W  R.CHIP 15K 5% 1/10W R.CHIP 18K 5% 1/10W R.CHIP 22K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R1413 R1431 R7229 R7253 R7268 R7303 R7317 R7405 R7419 R7508 R8032 R8090 R8097 R8158 R8168 R836 R846 R862 R881 R889 R1017 R1024 R1183 R1206 R1224 R1256 R1259 R1291 R1401 R1417 R705 R7237 R7264 R7301 R7306 R7318 R7416 R7422 R778 R8033 R8094 R810 R8160 R8172 R839 R849 R868 R882 R890		

SYMBOL	PARTS NO	DESCRIPTION
R1437 R8040 R7279 R891 R8016 R1409 R8042 R1425 R8085 R8014 R1432 R1438 R8080 R1001 R1004 R1011 R1015 R1022 R1182 R1311 R1002 R1005 R1012 R1020 R1023 R1201 R8041 R1003 R1009 R1013 R1021 R1181 R1289 R892 R1153 R8068 R8129 R1154 R8071 R8148 R8065 R8110 R1251 R1253 R7507 R8054	40AA3207  40AA3209  40AA3211  40AA3213  40AA3215  40AA3219 40AA3221 40AA3225	R.CHIP 27K 5% 1/10W  R.CHIP 33K 5% 1/10W  R.CHIP 39K 5% 1/10W  R.CHIP 47K 5% 1/10W  R.CHIP 56K 5% 1/10W  R.CHIP 82K 5% 1/10W R.CHIP 100K 5% 1/10W R.CHIP 150K 5% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R704 R719 R730 R733 R762 R816 R819 R826 R835 R706 R720 R731 R7433 R767 R817 R822 R828 R707 R721 R732 R761 R768 R818 R824 R830	40AA3229	R,CHIP 220K 5% 1/10W
R8109 R8128 R8147 R7283 R7432 R1231 R7274 R7278 R7275 R7277	40AA3233	R,CHIP 330K 5% 1/10W
R801 R821 R827 R802 R823 R829 R803 R825	40AA3243 40AA3245 40AA3257 40AB2146	R,CHIP 820K 5% 1/10W R,CHIP 1.0M 5% 1/10W R,CHIP 3.3M 5% 1/10W R,CHIP 75H 1% 1/4W

SYMBOL	PARTS NO	DESCRIPTION
R1408 R1235 R1232 R7312 R1241 R1242 R1250 R1252 R7311 R1213 R1155	40AB3199 40AB3201 40AB3203 40AB3205 40AB3209 40AB3211 40AB3217 40AB3220 40AB3231	R,CHIP 12K 1% 1/10W R,CHIP 15K 1% 1/10W R,CHIP 18K 1% 1/10W R,CHIP 22K 1% 1/10W R,CHIP 33K 1% 1/10W R,CHIP 39K 1% 1/10W R,CHIP 68K 1% 1/10W R,CHIP 91K 1% 1/10W R,CHIP 270K 1% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
R701 R716 R702 R717 R703 R718 R7450 R7458 R7240 R7239 R7244 R7243 R7434 R1212 R8046 R8050 R8053 R1246 R7248 R7251 R7225 R7439 R7249 R7446 R7252 R7226 R7467 R7448 R7449 R8023 R7445 R7447 R1222 R1233 R7281 R8199 R8200 R8201 R7438 R1152 R1292 R1237 R1217 R1218 R1266	40AB3146 40AB3157 40AB3159 40AB3165 40AB3167 40AB3170 40AB3172 40AB3173 40AB3175 40AB3177 40AB3181 40AB3185 40AB3187 40AB3188 40AB3189 40AB3191 40AB3193 40AB3195 40AB3197	R,CHIP 75H 1% 1/10W R,CHIP 220H 1% 1/10W R,CHIP 270H 1% 1/10W R,CHIP 470H 1% 1/10W R,CHIP 560H 1% 1/10W R,CHIP 750H 1% 1/10W R,CHIP 910H 1% 1/10W R,CHIP 1.0K 1% 1/10W R,CHIP 1.2K 1% 1/10W R,CHIP 1.5K 1% 1/10W R,CHIP 2.2K 1% 1/10W R,CHIP 3.3K 1% 1/10W R,CHIP 3.9K 1% 1/10W R,CHIP 4.3K 1% 1/10W R,CHIP 4.7K 1% 1/10W R,CHIP 5.6K 1% 1/10W R,CHIP 6.8K 1% 1/10W R,CHIP 8.2K 1% 1/10W R,CHIP 10K 1% 1/10W

SYMBOL	PARTS NO	DESCRIPTION
*** CAPACITORS ***		
C1003 C1004 C1005 C1007 C1008	42AA2726 42CA1416 42CA1416 42AA2726 430B9032	C,CERAMIC 50V 0.01UF C,CERAMIC 50V 10PF C,CERAMIC 50V 10PF C,CERAMIC 50V 0.01UF C,ELEC 16V 470UF
C1009 C101 C1010 C1011 C1012	42AA2726 430C0047 42AA2726 42AA2726 42AA2726	C,CERAMIC 50V 0.01UF C,ELEC 16V 47UF C,CERAMIC 50V 0.01UF C,CERAMIC 50V 0.01UF C,CERAMIC 50V 0.01UF
C1013 C1014 C1020 C1021 C1023	42AA2726 42CA1432 42CA1416 42CA1416 42AA2726	C,CERAMIC 50V 0.01UF C,CERAMIC 50V 47PF C,CERAMIC 50V 10PF C,CERAMIC 50V 10PF C,CERAMIC 50V 0.01UF
C1024 C1025 C1026 C1027 C1028	42AA2726 42AA2726 42AA2726 430B9025 430B9025	C,CERAMIC 50V 0.01UF C,CERAMIC 50V 0.01UF C,CERAMIC 50V 0.01UF C,ELEC 16V 10UF C,ELEC 16V 10UF
C1029 C1030 C1031 C1032 C1050	430B9025 430B9025 42AA2726 42AA2726 42AA2726	C,ELEC 16V 10UF C,ELEC 16V 10UF C,CERAMIC 50V 0.01UF C,CERAMIC 50V 0.01UF C,CERAMIC 50V 0.01UF
C1051 C1053 C1054 C1059 C1060	42AA2726 42CA1432 42CA1432 42CA1432 42CA1432	C,CERAMIC 50V 0.01UF C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF
C1061 C1062 C1063 C1064 C1065	42CA1432 42CA1432 42CA1432 42CA1432 42CA1432	C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF
C1066 C1067 C1068	42CA1432 42CA1432 42CA1432	C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF C,CERAMIC 50V 47PF







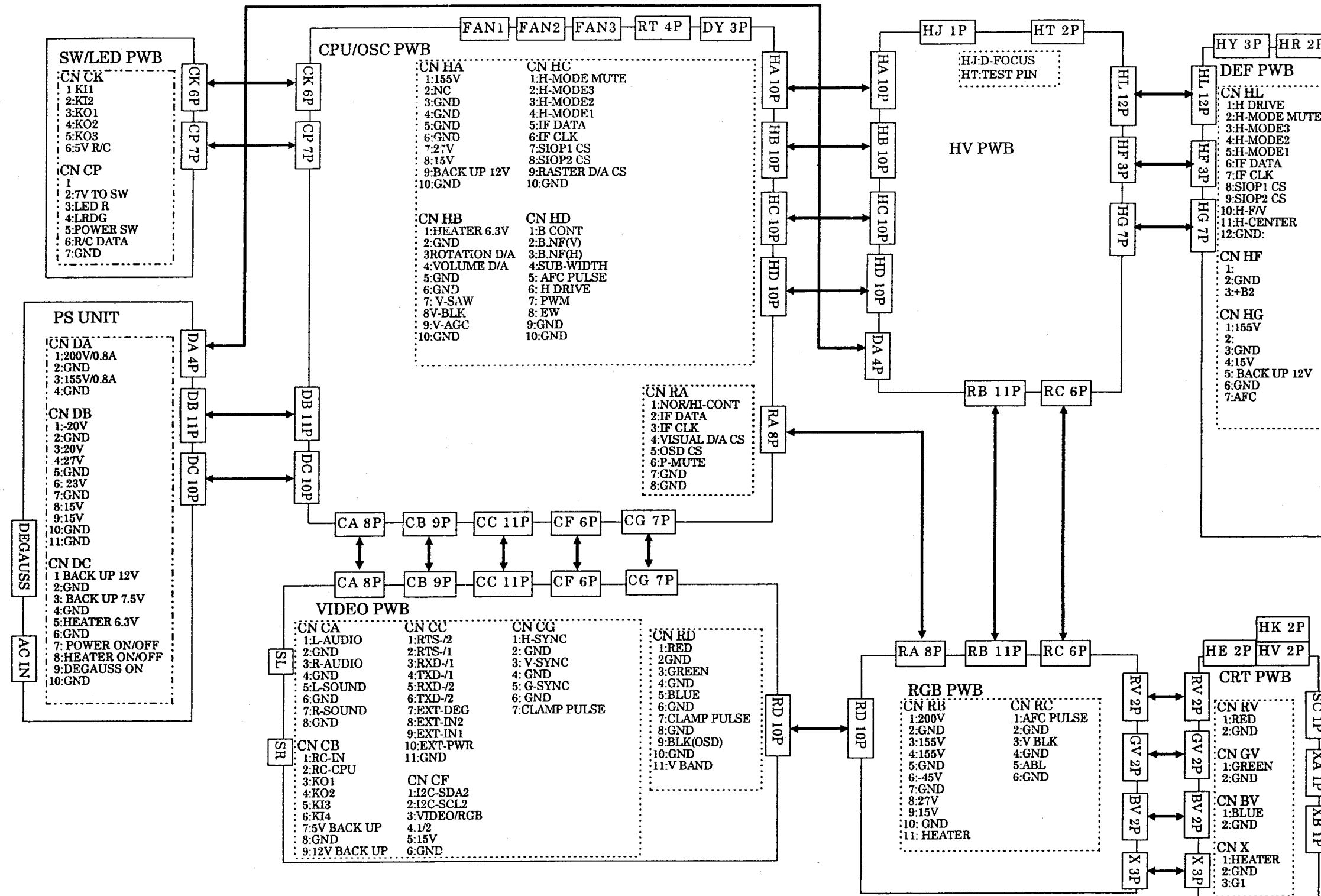


SYMBOL	PARTS NO	DESCRIPTION
C8046	42AA2721	C.CERAMIC 50V 0.1UF
C8047	42AA2721	C.CERAMIC 50V 0.1UF
C8048	430B9042	C.ELEC 25V 100UF
C8049	430B9038	C.ELEC 25V 10UF
C805	43CC1345	C.ELEC 16V 33UF
C8050	430B8178	C.ELEC 50V 4.7UF
C8051	430B8176	C.ELEC 50V 2.2UF
C8052	42AA2721	C.CERAMIC 50V 0.1UF
C8053	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8054	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8055	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8056	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8057	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8058	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8059	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C806	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8060	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8061	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8062	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C807	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C808	43CC1345	C.ELEC 16V 33UF
C809	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C810	43CC1350	C.ELEC 25V 3.3UF
C8102	42CA1458	C.CERAMIC 50V 560PF
C8104	42AA2721	C.CERAMIC 50V 0.1UF
C8105	430B9552	C.ELEC 250V 1.0UF
C8106	42840105	C.METAL FILM 250V 1UF
C811	42AA2721	C.CERAMIC 50V 0.1UF
C8111	42AA2721	C.CERAMIC 50V 0.1UF
C8112	430B9552	C.ELEC 250V 1.0UF
C8113	42840105	C.METAL FILM 250V 1UF
C8118	42AA2721	C.CERAMIC 50V 0.1UF
C8119	430B9552	C.ELEC 250V 1.0UF
C812	42AA2721	C.CERAMIC 50V 0.1UF
C8120	42840105	C.METAL FILM 250V 1UF
C8122	4201J575	C.CERAMIC 500V 0.01UF
C8123	430B9556	C.ELEC 250V 10UF
C8124	42AA2721	C.CERAMIC 50V 0.1UF
C8125	4201J575	C.CERAMIC 500V 0.01UF
C8126	430B9556	C.ELEC 250V 10UF

SYMBOL	PARTS NO	DESCRIPTION
C841	42AA2721	C.CERAMIC 50V 0.1UF
C842	42AA2721	C.CERAMIC 50V 0.1UF
C844	42AA2721	C.CERAMIC 50V 0.1UF
C845	43KB7523	C.ELEC 25V 33UF
C846	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C847	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C848	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C901	421D6009	C.CERAMIC 25V 0.1UF
C902	42034143	C.CERAMIC 2KV 1000PF
C904	42019175	C.CERAMIC 2KV 0.01UF

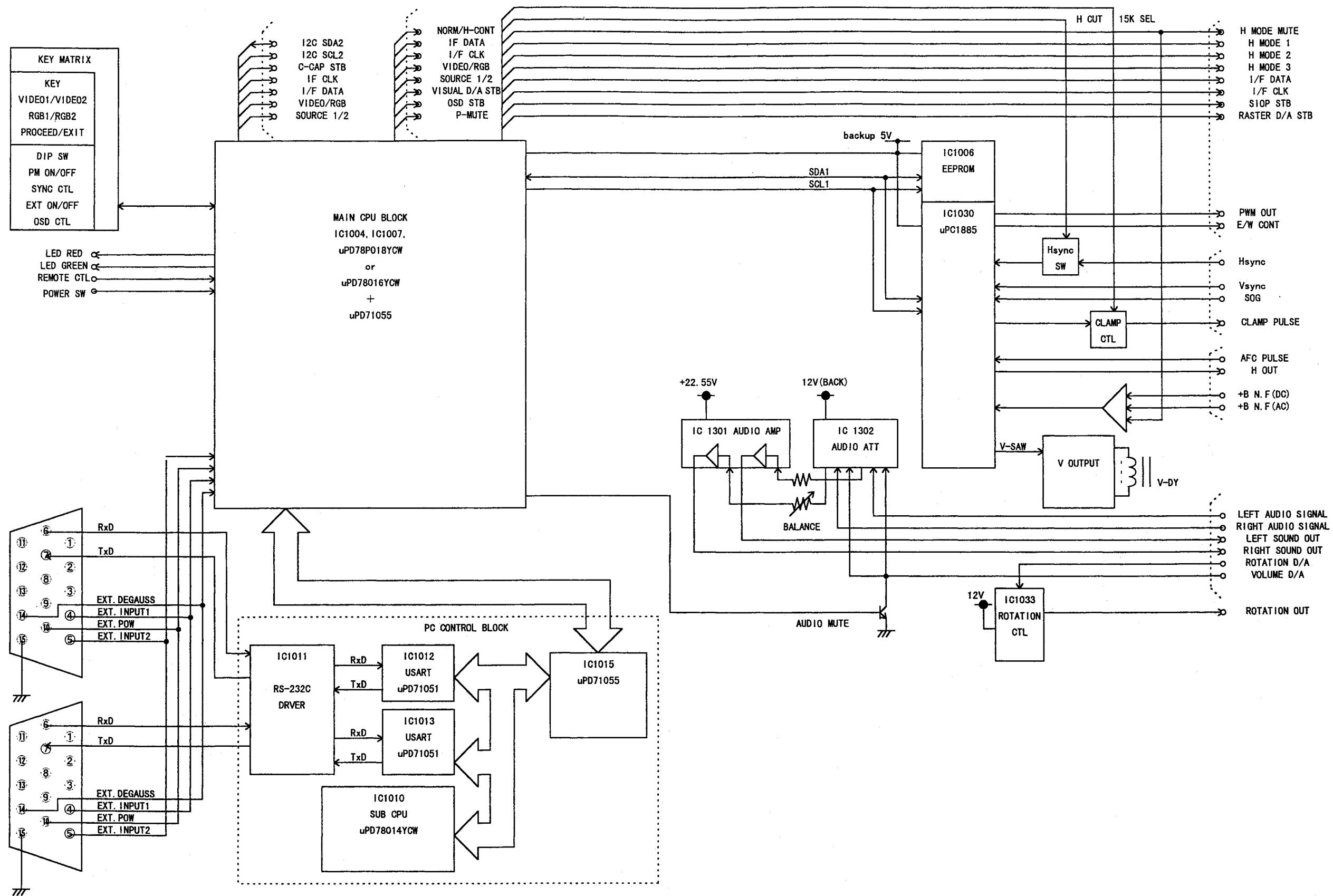
SYMBOL	PARTS NO	DESCRIPTION
C8128	430B6555	C.ELEC 250V 4.7UF
C8129	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C813	43CC1350	C.ELEC 25V 3.3UF
C8130	430B6555	C.ELEC 250V 4.7UF
C8131	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8132	430B6555	C.ELEC 250V 4.7UF
C8133	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8138	42CA1416	C.CERAMIC 50V 10PF
C8139	42CA1416	C.CERAMIC 50V 10PF
C814	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C8140	42CA1416	C.CERAMIC 50V 10PF
C8141	42AA2721	C.CERAMIC 50V 0.1UF
C8142	42AA2721	C.CERAMIC 50V 0.1UF
C8143	42AA2721	C.CERAMIC 50V 0.1UF
C815	43CC1345	C.ELEC 16V 33UF
C816	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C817	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C818	43CC1345	C.ELEC 16V 33UF
C819	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C820	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C821	43CC1345	C.ELEC 16V 33UF
C822	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C823	42AA2721	C.CERAMIC 50V 0.1UF
C824	43KB7523	C.ELEC 25V 33UF
C825	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C826	43CC1345	C.ELEC 16V 33UF
C827	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C828	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C829	43CC1345	C.ELEC 16V 33UF
C830	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C831	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C832	43CC1345	C.ELEC 16V 33UF
C833	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C834	42AA2721	C.CERAMIC 50V 0.1UF
C835	43KB7452	C.ELEC CHIP 25V 33UF
C836	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C837	43KB7538	C.ELEC 16V 100UF
C838	42AA1521	C.CHIP CERAMIC 50V 0.01UF
C839	43KB7515	C.ELEC 16V 10UF
C840	43KB7538	C.ELEC 16V 100UF

# CONNECTION DIAGRAMS

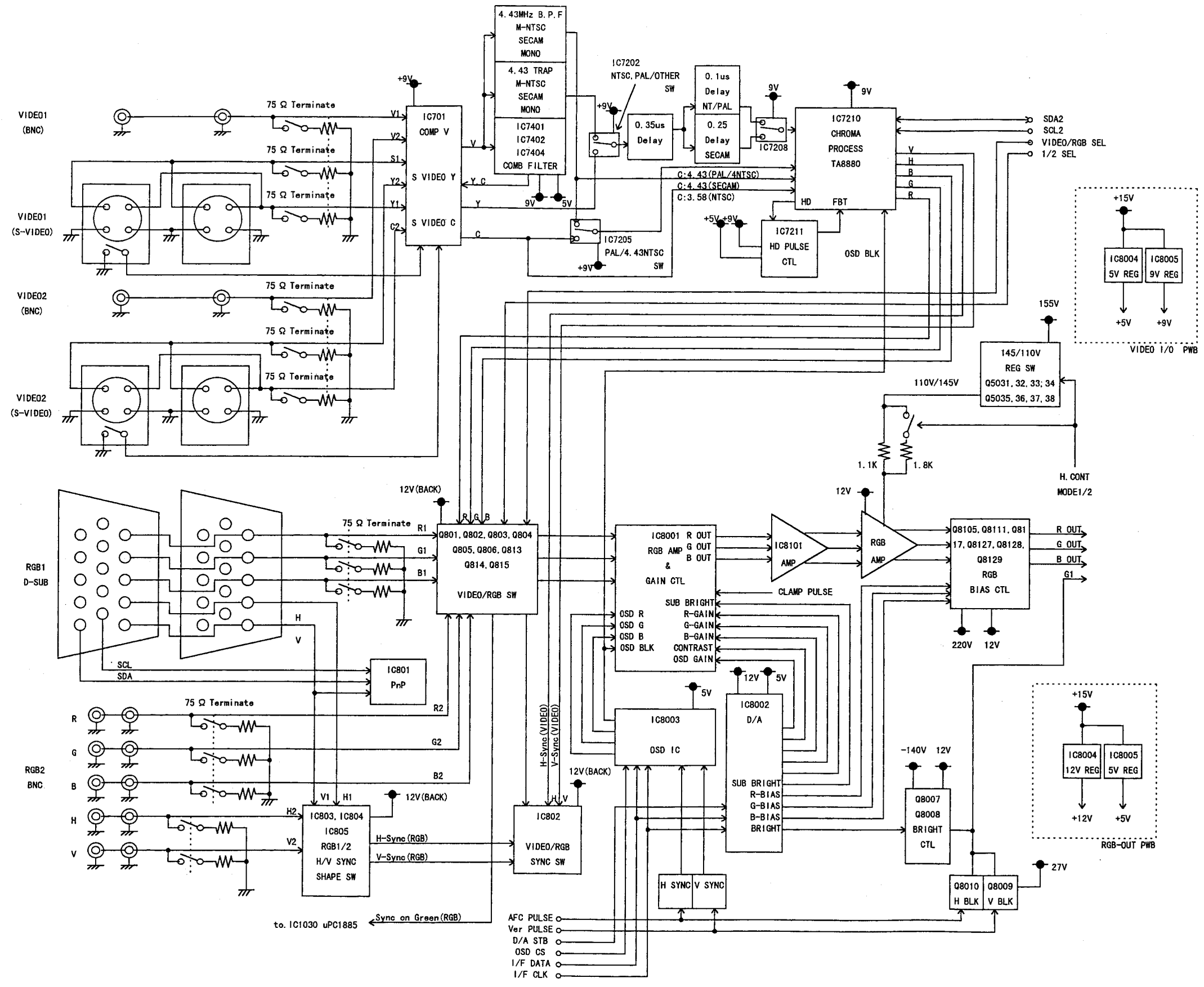


# BLOCK DIAGRAMS

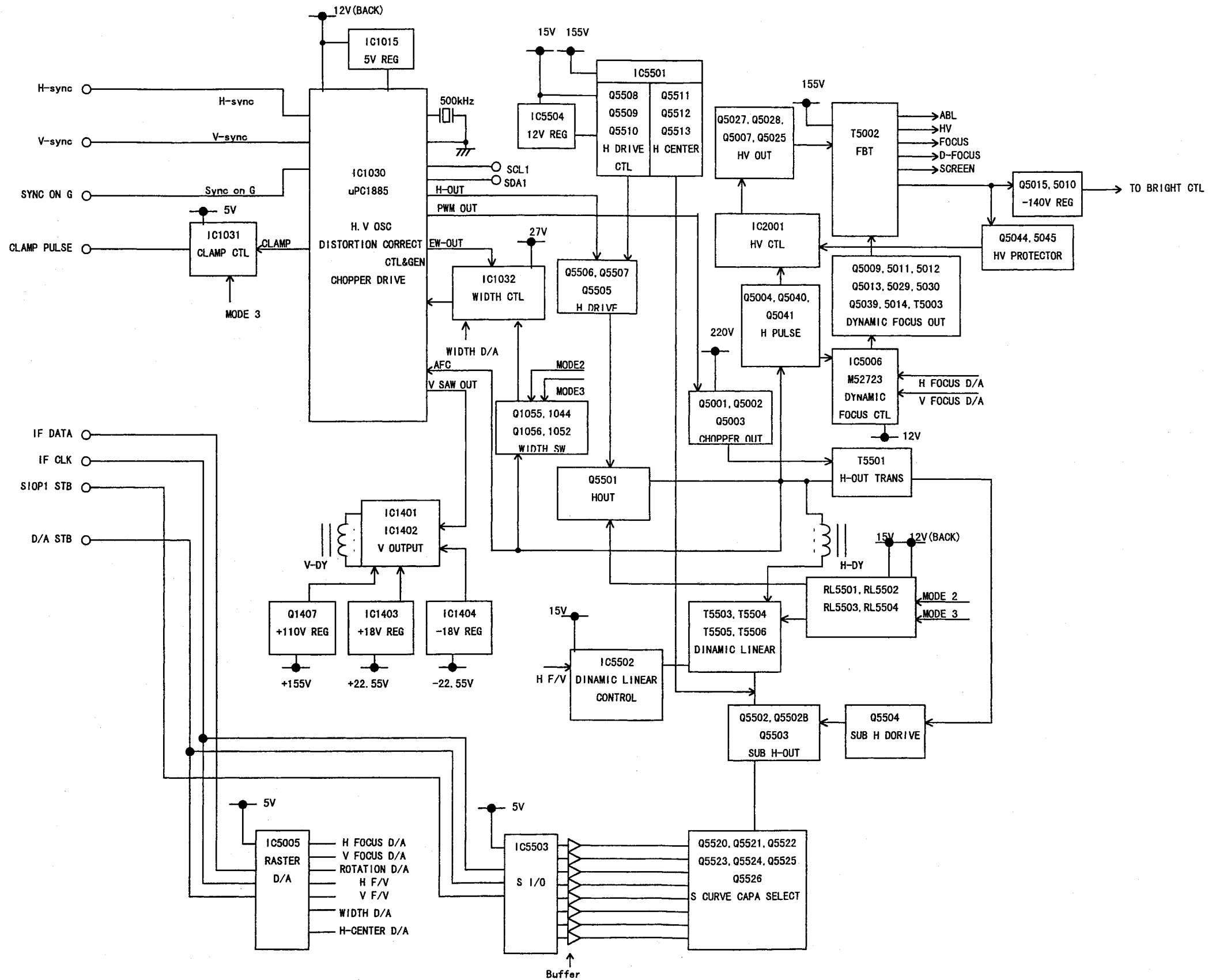
## MICRO PROCESSOR CONTROL LINE



VISUAL LINE

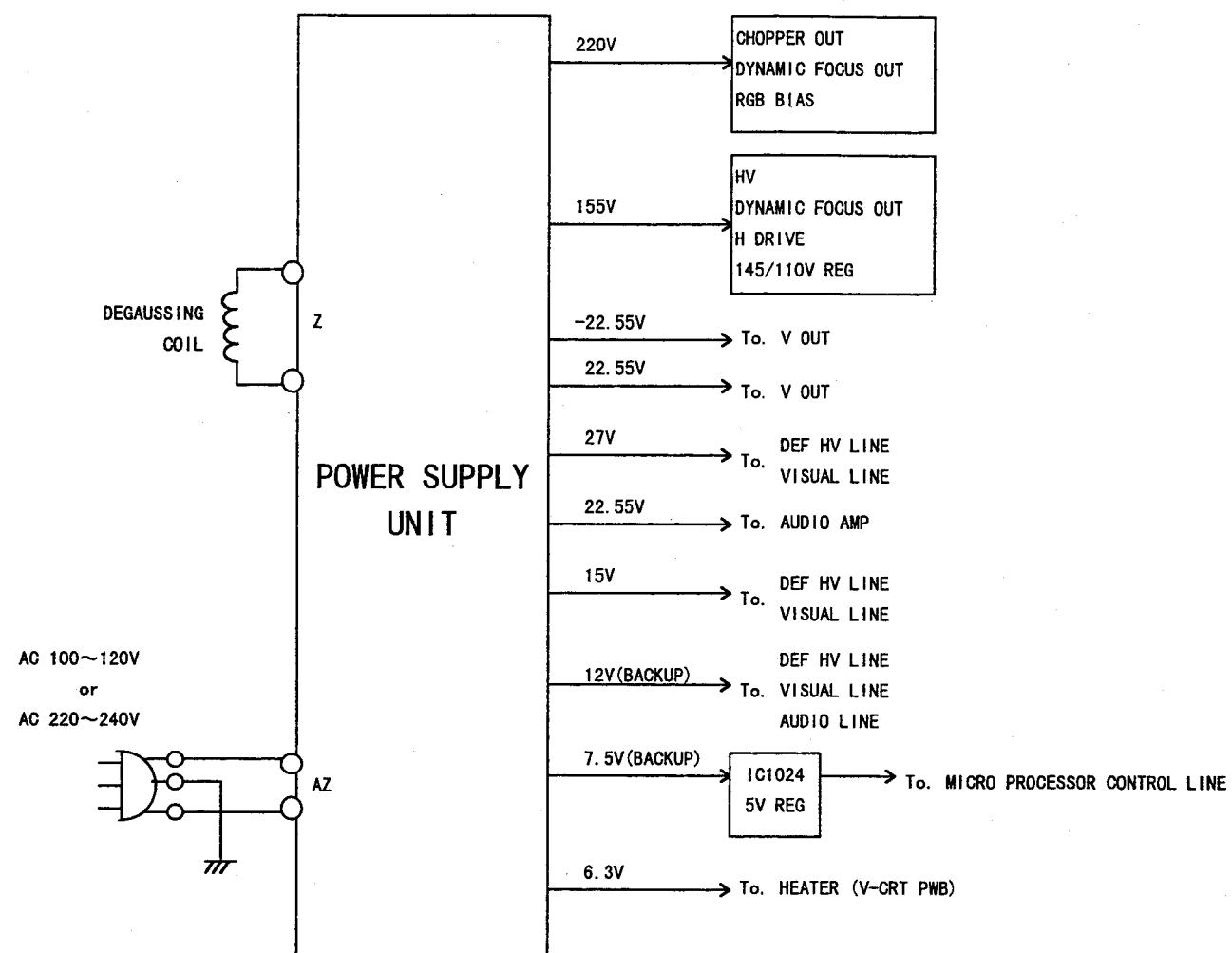


DEFLECTION, HIGH VOLTAGE LINE





POWER SUPPLY LINE



# SCHEMATIC DIAGRAMS

VIDEO I/O PWB (PWC-4127A) 1/7

1 2 3 4 5 6 7 8

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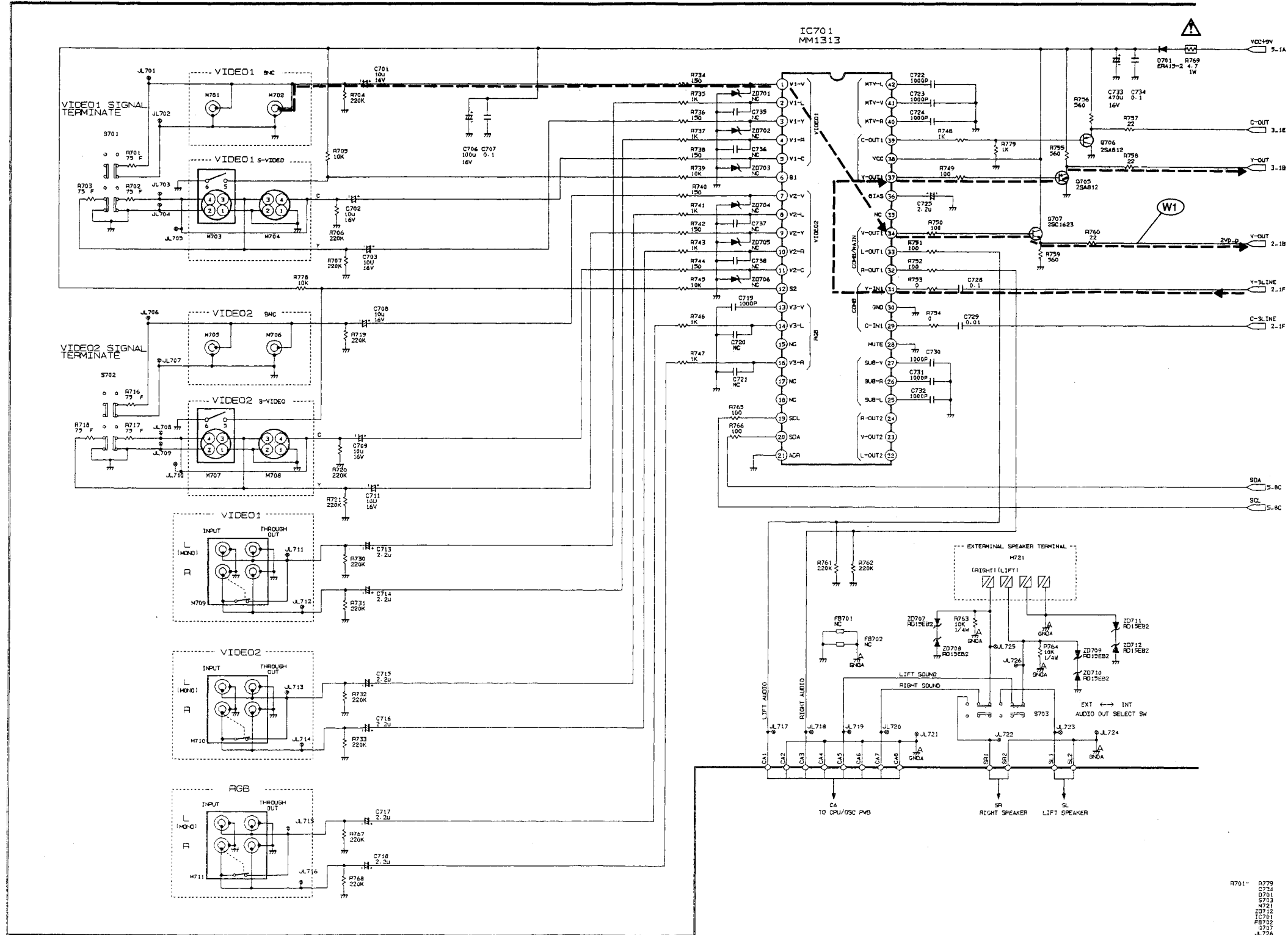
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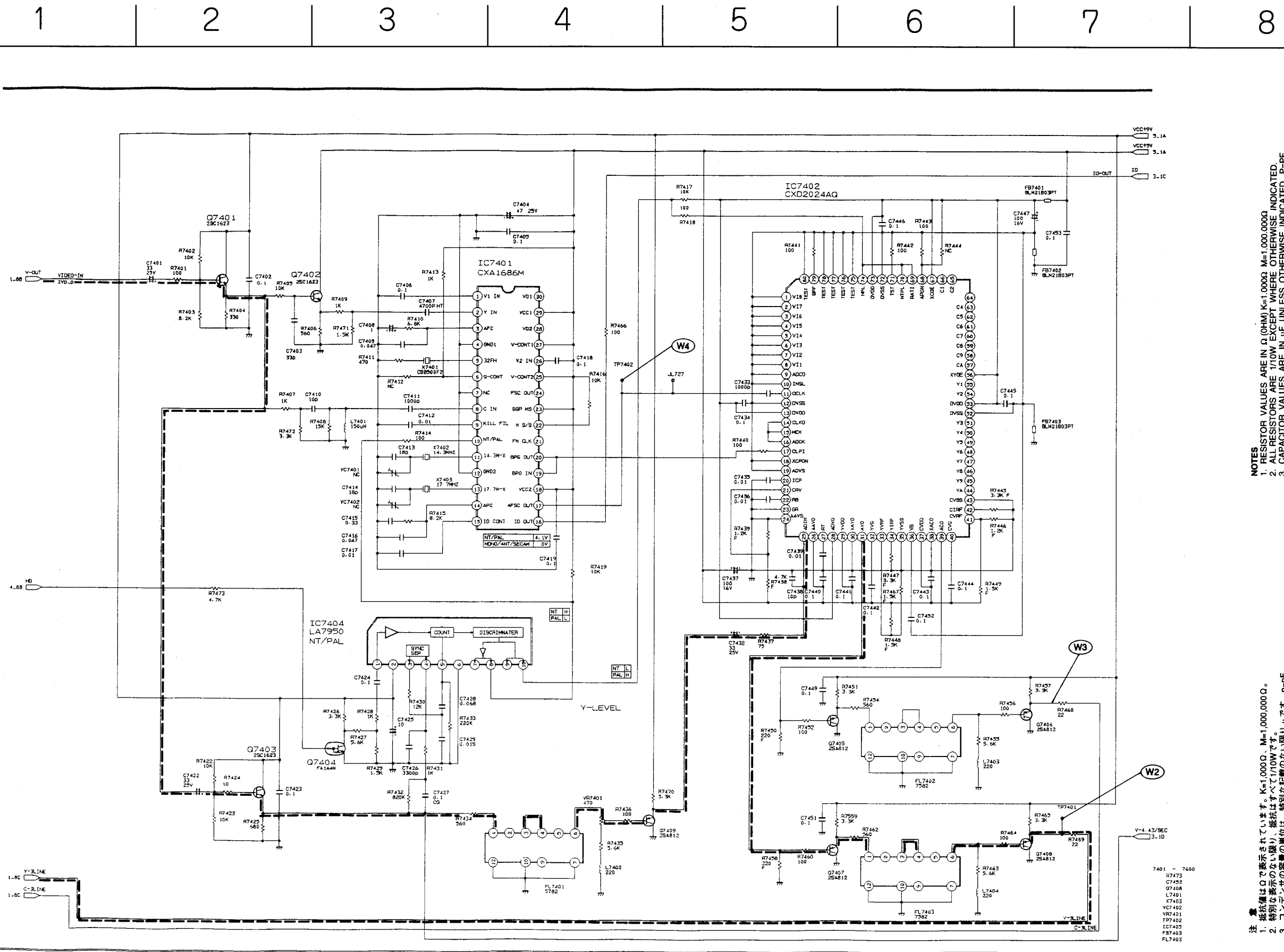
- NOTES**
- RESISTOR VALUES ARE IN  $\Omega$  (OHM)  $K=1,000\Omega$   $M=1,000,000\Omega$
  - ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  - CAPACITOR VALUES ARE IN  $\mu F$  UNLESS OTHERWISE INDICATED. P=PF
  - SPECIAL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  - ① ..... HORIZONTAL RATE. ② ..... VERTICAL RATE.

**WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注意**
- 抵抗値は  $\Omega$  で表示されています。K=1,000  $\Omega$ 、M=1,000,000  $\Omega$ 。
  - 特別な表示のない限り、抵抗はすべて1/10Wです。
  - コンデンサの容量の単位は、特別な記載のない限り  $\mu F$  です。P=PF。
  - 特別な表示のない限り、コンデンサはすべて定格50Vです。
  - ① ..... 水平レート ② ..... 垂直レート
- 警告**  
特別な安全性を持つ保守部品は、回路図に△マークと網掛けで示してあります。  
この部品を交換するときは、規定の保守部品を使用してください。  
保守作業が適切でないために安全性を低下させることのないよう、十分に注意してください。

R701- R799  
C701- C728  
D701- D799  
ZD701- ZD708  
M701- M711  
IC701- IC701  
FB701- FB702  
S701- S703  
J.701- J.724

VIDEO I/O PWB (PWC-4127A) 2/7



**NOTES**

- RESISTOR VALUES ARE IN  $\Omega$  (OHM)  $K=1,000\Omega$   $M=1,000,000\Omega$ .
- ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
- CAPACITOR VALUES ARE IN  $\mu F$  UNLESS OTHERWISE INDICATED. P=PF.
- ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
- ①..... HORIZONTAL RATE. ②..... VERTICAL RATE.

**WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

**注**

- 抵抗値は $\Omega$ で表示されています。 $K=1,000\Omega$ 、 $M=1,000,000\Omega$ 。
- 特別な表示のない限り、抵抗はすべて1/10Wです。
- コンデンサの容量の単位は、特別な記載のない限り $\mu F$ です。p=PF。
- 特別な表示のない限り、コンデンサはすべて定格50Vです。
- ①..... 水平レイト ②..... 垂直レイト

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- 7401 - 7400
- R7473
- C7493
- Q7408
- L7401
- X7403
- VCI-402
- VR7401
- TP7402
- IC7405
- FB7403
- FL7403

**SCHEMATIC DIAGRAMS**

**VIDEO I/O PWB (PWC-4127A) 3/7**

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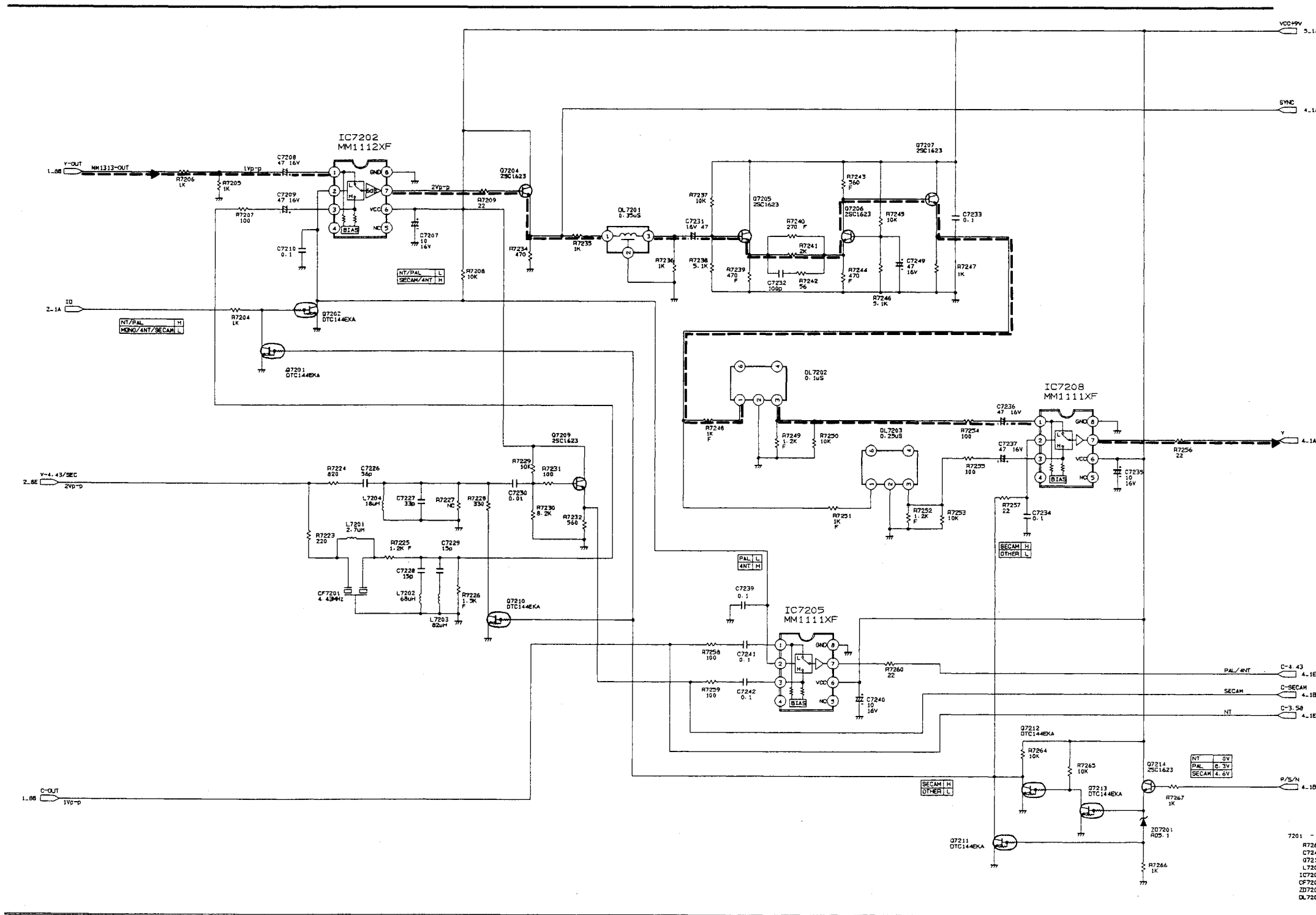
B

C

D

E

F



- NOTES**
- RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000  $\Omega$ , M=1,000,000  $\Omega$ .
  - ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  - CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF
  - ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  - $\text{\textcircled{H}}$  ..... HORIZONTAL RATE.  $\text{\textcircled{V}}$  ..... VERTICAL RATE.

**WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注意**
- 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ です。特別な表示のない限り、抵抗はすべて1/10Wです。
  - コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。p=PF。
  - コンデンサの電圧の単位は、特別な記載のない限り、コンデンサはすべて定格50Vです。
  - 特別な表示のない限り、コンデンサはすべて定格50Vです。
  - $\text{\textcircled{H}}$  ..... 水平レート  $\text{\textcircled{V}}$  ..... 垂直レート

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この部品を交換するときは、規定の保守部品を必ず使用してください。この部品を交換するときは、規定の保守部品を必ず使用してください。この部品を交換するときは、規定の保守部品を必ず使用してください。  
保守作業が適切でないために安全性を低下させることがないように、十分に注意してください。

7201 - 7400  
R7267  
C7249  
Q7214  
L7204  
C7208  
C7201  
ZD7201  
DL7203

R7233  
R7321

VIDEO I/O PWB (PWC-4127A) 4/7

1 2 3 4 5 6 7 8

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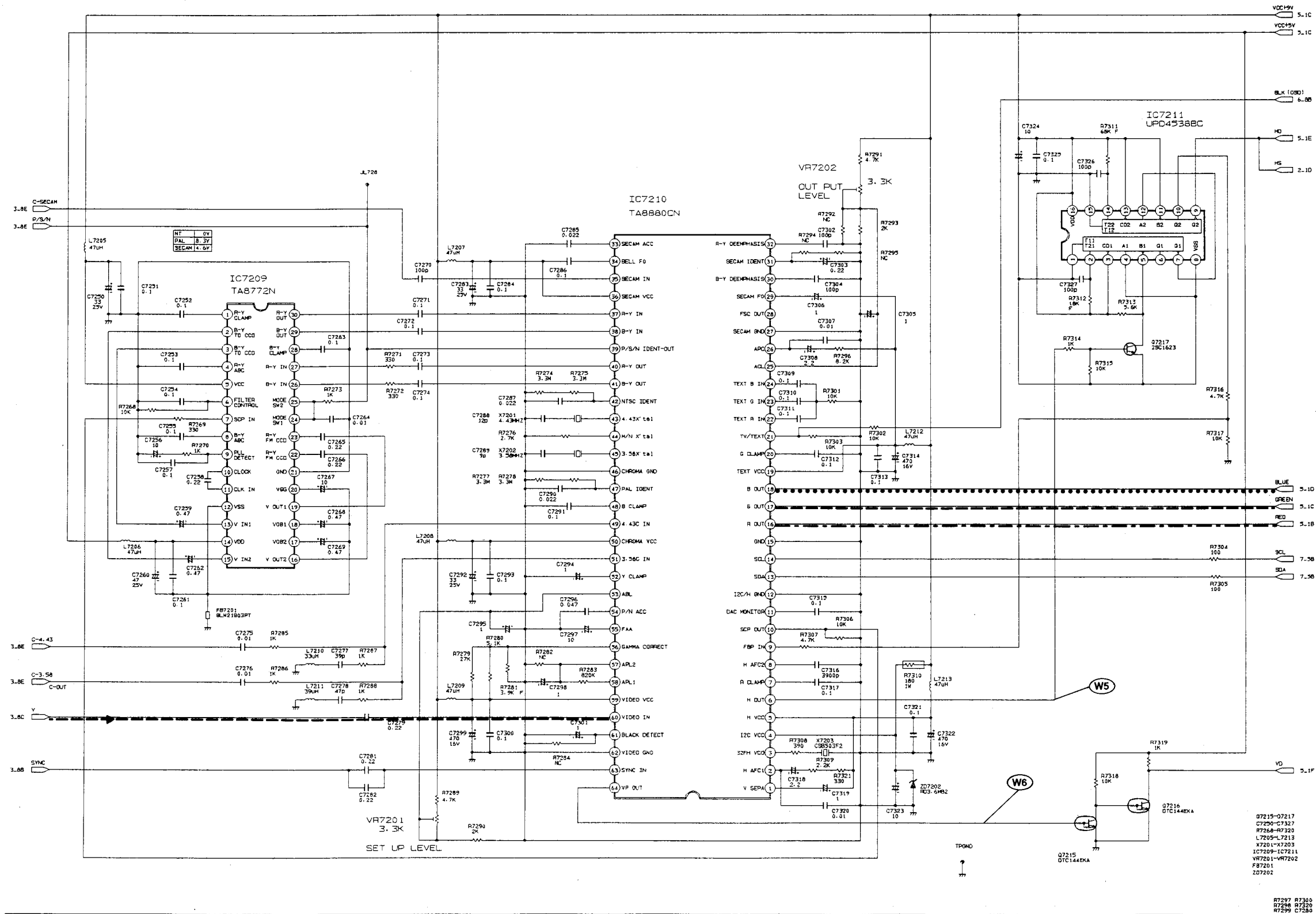
B

C

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F



- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000.0 M=1,000,000.0
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5. ① ..... HORIZONTAL RATE. ② ..... VERTICAL RATE.

**WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

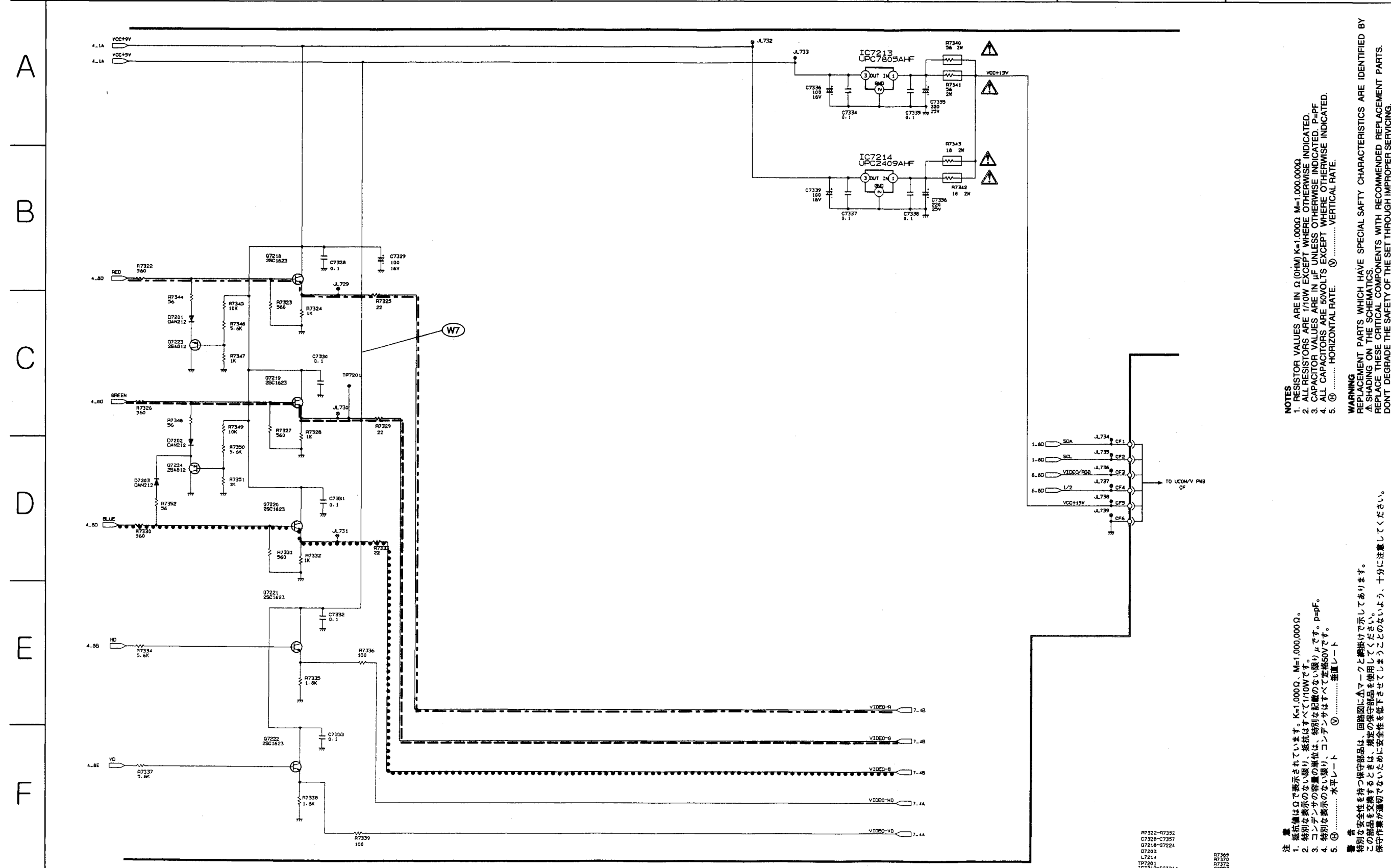
- 注**
1. 抵抗値は $\Omega$ で表示されています。K=1,000.0、M=1,000,000.0。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り、 $\mu$ Fです。P=pF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5. ① ..... 水平レイト ② ..... 垂直レイト

**警告**  
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この部品を交換するときは、規定の保守部品を使用してください。  
保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

R7297 R7300  
R7298 R7299  
R7299 C7280

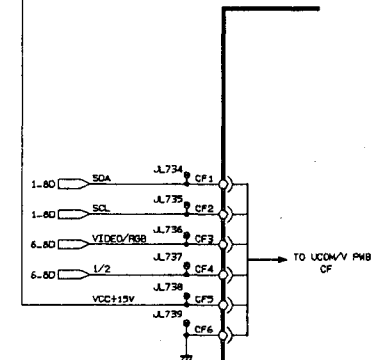
SCHEMATIC DIAGRAMS

VIDEO I/O PWB (PWC-4127A) 5/7



- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000 $\Omega$  M=1,000,000 $\Omega$ .
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=pF.
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5.  $\text{\textcircled{H}}$  ..... HORIZONTAL RATE.  $\text{\textcircled{V}}$  ..... VERTICAL RATE.

**WARNING**  
 REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
 REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
 DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.



- 注意**
1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ 。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。p=pF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5.  $\text{\textcircled{H}}$  ..... 水平レート  $\text{\textcircled{V}}$  ..... 垂直レート

**警告**  
 特別な安全性を持つ保守部品は、回路図にAマークと網掛けで示してあります。  
 この部品を交換するときは、規定の保守部品を使用してください。  
 保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

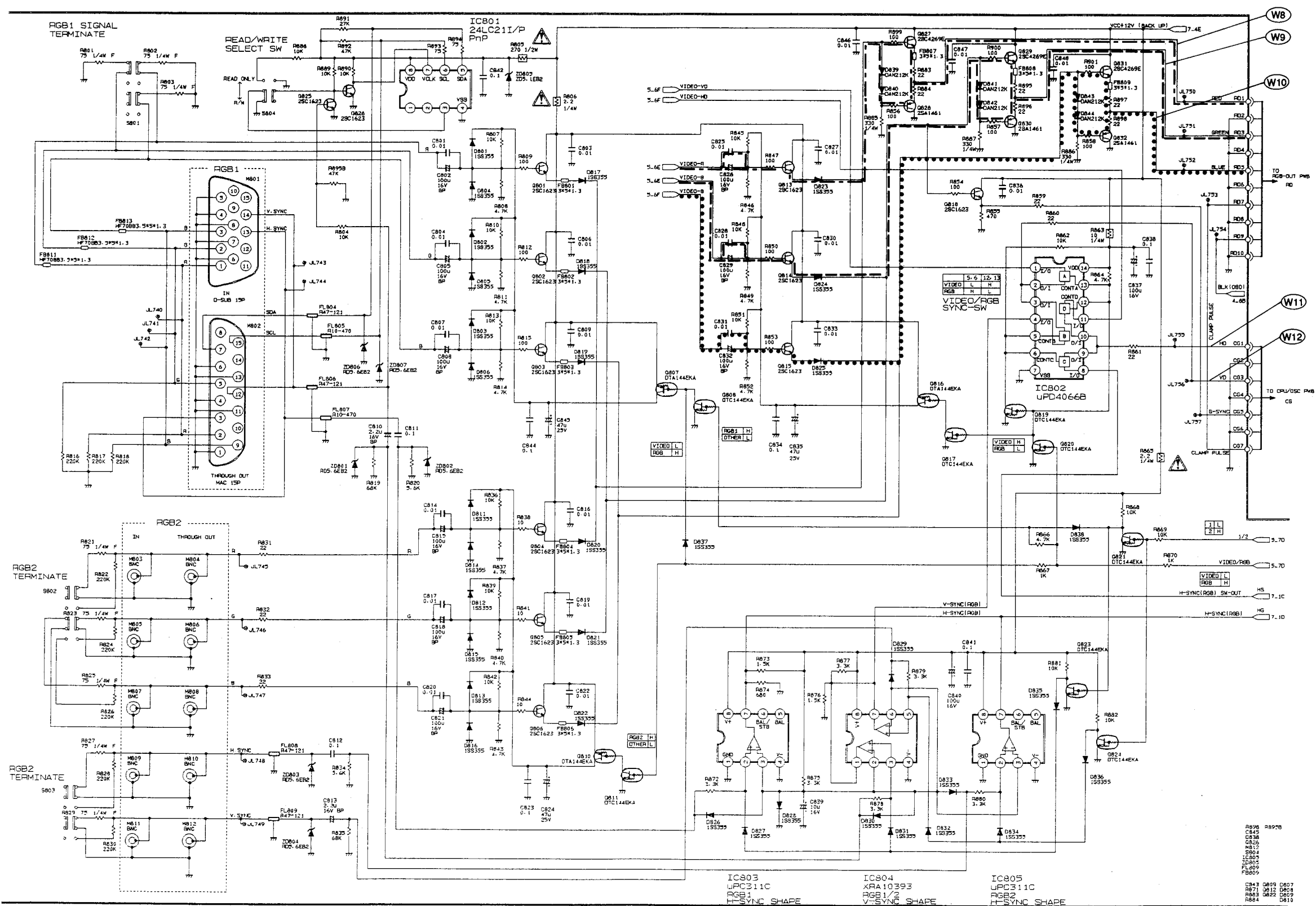
R7322-R7332  
 C7328-C7337  
 07218-07224  
 07203  
 L7214  
 T7201  
 IC7212-IC7214

R7346  
 R7347  
 R7348  
 R7349  
 R7350

VIDEO I/O PWB (PWC-4127A) 6/7

1 2 3 4 5 6 7 8

A  
B  
C  
D  
E  
F

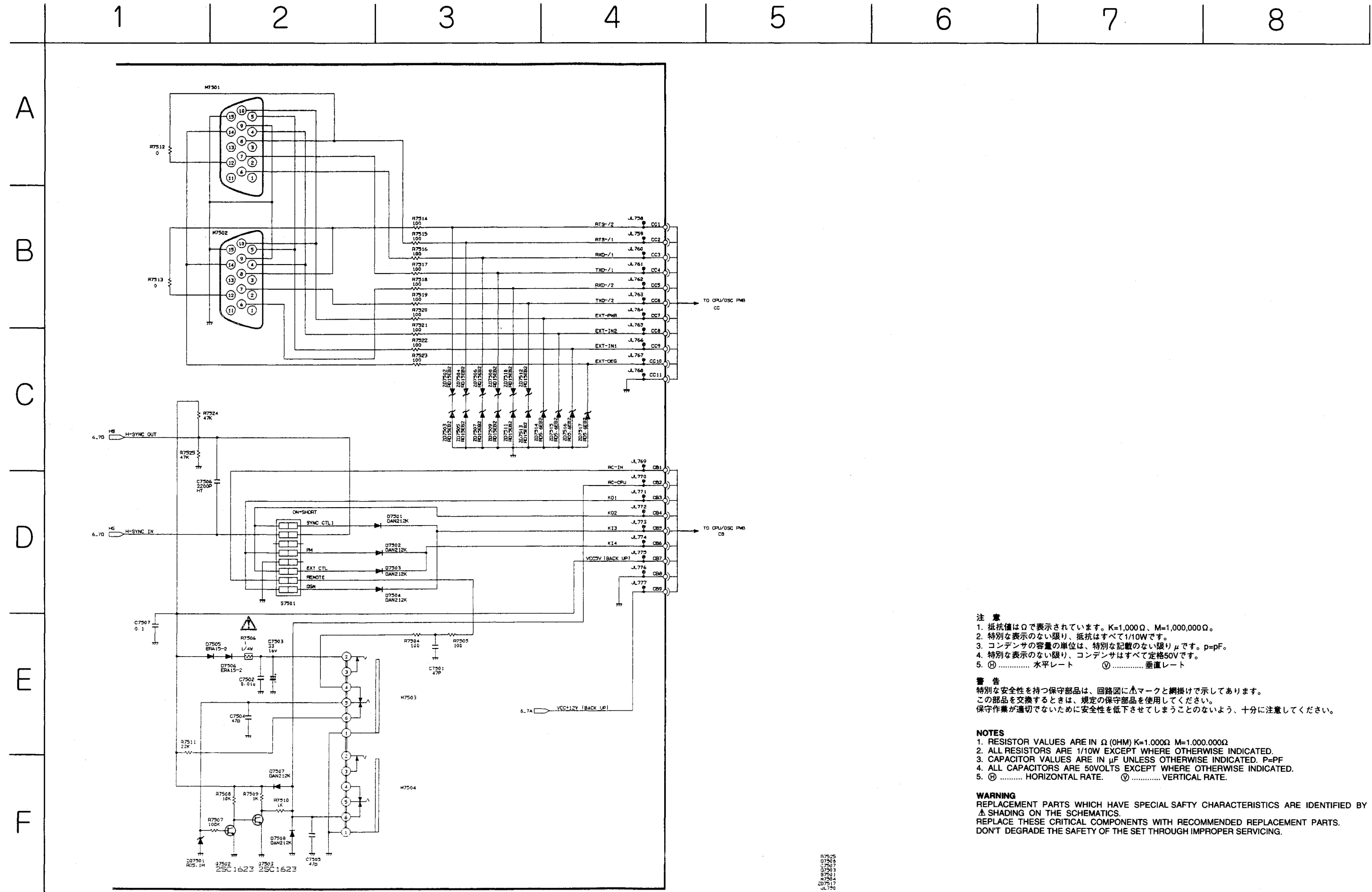


- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000.0 M=1,000,000.0.
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PPF.
  4.  $\text{---}$  HORIZONTAL RATE.  $\text{---}$  VERTICAL RATE.
  5.  $\text{---}$  CLAMP PULSE.
- WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注**
1. 抵抗値は $\Omega$ で表示されています。K=1,000.0、M=1,000,000.0。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。P=PPF。
  4.  $\text{---}$ は水平レートの表示、 $\text{---}$ は垂直レートの表示です。
  5.  $\text{---}$ はクランプパルスの表示です。
- 警告**  
特別な安全性を持つ保守部品は、回路図にAマークと横線が示してあります。  
この部品を交換するときには、標榜の保守部品を使用してください。  
保守作業が適切でないために安全性を低下させてしまつたことのないよう、十分に注意してください。

**SCHEMATIC DIAGRAMS**

**VIDEO I/O PWB (PWC-4127A) 7/7**



**注意**  
 1. 抵抗値はΩで表示されています。K=1,000Ω、M=1,000,000Ω。  
 2. 特別な表示のない限り、抵抗はすべて1/10Wです。  
 3. コンデンサの容量の単位は、特別な記載のない限りμです。p=pF。  
 4. 特別な表示のない限り、コンデンサはすべて定格50Vです。  
 5. ⊕ ..... 水平レート ⊙ ..... 垂直レート

**警告**  
 特別な安全性を持つ保守部品は、回路図に△マークと網掛けで示してあります。この部品を交換するときは、規定の保守部品を使用してください。保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

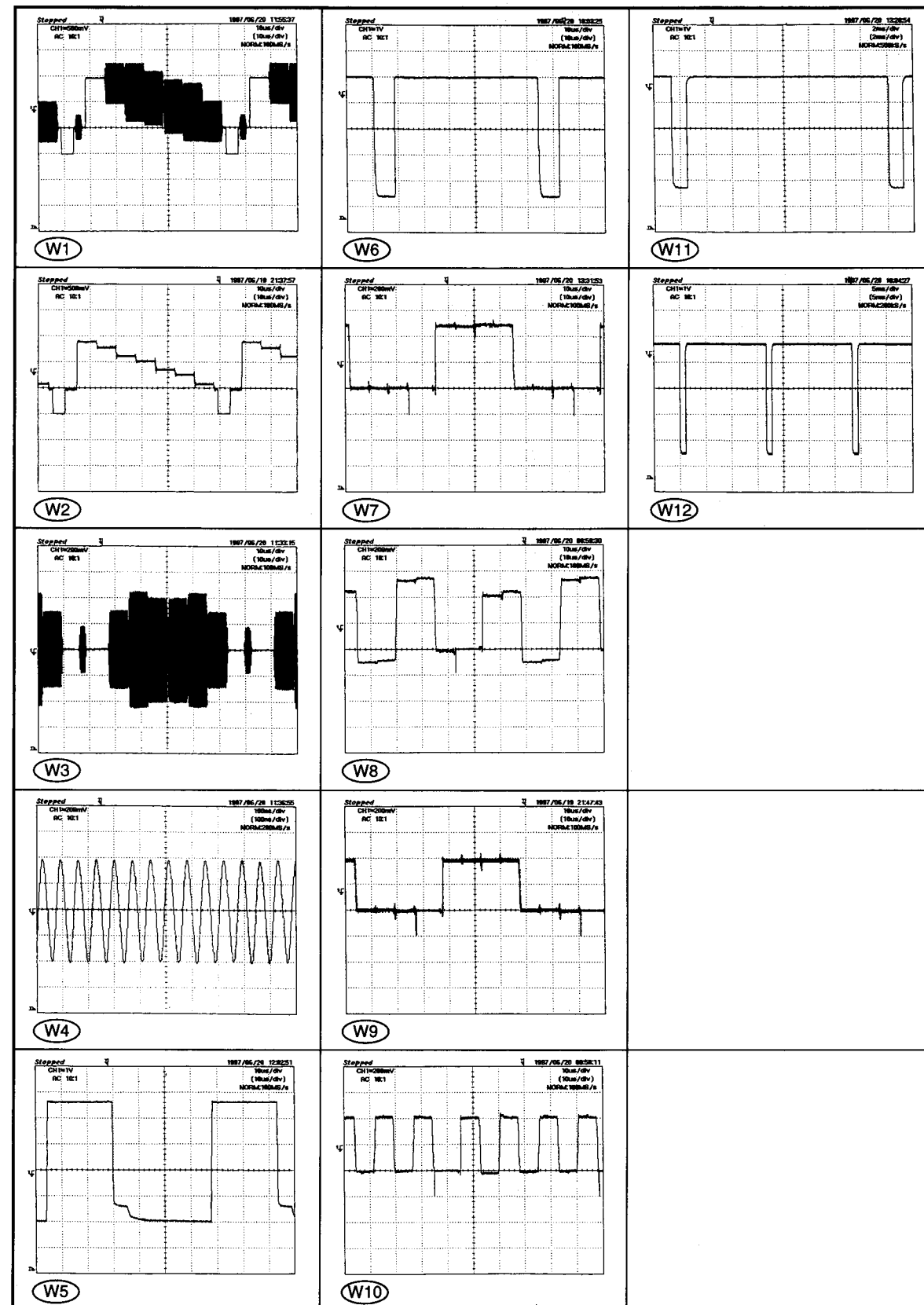
**NOTES**  
 1. RESISTOR VALUES ARE IN Ω (OHM) K=1,000Ω M=1,000,000Ω.  
 2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.  
 3. CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE INDICATED. P=pF  
 4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.  
 5. ⊕ ..... HORIZONTAL RATE. ⊙ ..... VERTICAL RATE.

**WARNING**  
 REPLACEMENT PARTS WHICH HAVE SPECIAL SAFTY CHARACTERISTICS ARE IDENTIFIED BY △ SHADING ON THE SCHEMATICS. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

7505  
 7506  
 7507  
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 7525



VIDEO I/O PWB (PWC-4127A) WAVE FORM



VOLTAGE

CIRCUIT	SYMBOL	VOLTAGE	CONDITION
IC701	#1.3.5.7.9.11.13.29.31.41	4.4	INPUT VIDEO
	#2.4.8.10.14.16.	3.8	
	#6	6.6	VIDEO1 MODE
	#12	6.6	VIDEO2 MODE
	#19.20	4.2	
	#21.28.30	0	
	#32.33	3.7	
	#34	4	
	#36	3.8	
	#37.39	3	
	#38	12	
	#15.17.18.21.35	0	NC
	#22.23.24.25.26.40.42	3.8	NC
	#27.41	4.4	NC
IC7401	#2.8	1.9	INPUT VIDEO
	#3.14.15.17	2.5	
	#4.12	0	
	#5	1.1	
	#6.9.18.22.23.25.27.29	5	
	#10	4.9	NT/PAL COLOR MODE
	#11.13	0	OTHER
	#16	3.1	
	#17	4.1	NT/PAL COLOR MODE
	#19.20	0	OTHER
	#7	2.5	
	#21	4.1	NC
	#24	4.1	NC
	#1.26.28.30	3.2	NC
IC7402	#11	2.4	INPUT VIDEO
	#13.28.29.37.53.56.73.68	5	
	#14.15.16	2.7	
	#17	3.9	
	#21	1	
	#25	1.4	
	#27.33.34	2.5	
	#31.39	1.2	
	#32	3.2	
	#40	3.3	
	#41.42	2.2	
	#69.70.74	0	NT MODE
	#1-10.12.18.19.20.22.23.24.30.35.36.38.43.52.68.71.75.76.77.78.79.80	5	PAL MODE
	#44-51.54.55.57-66	0	NC
IC7404	#1	3.8	INPUT VIDEO
	#2	9	
	#3	0.8	
	#4	8.8	
	#5.6	0	
	#7.9	-	NC
	#8	5	NT MODE
	#10	0	PAL MODE
		0	NT MODE
		5	PAL MODE
IC7202.05	#1.3	4.1	INPUT VIDEO
	#2	0	NT/PAL COLOR MODE
	#4.5	4.7	OTHER
	#6	-	NC
	#7	9	
IC7208	#1.3	4.1	INPUT VIDEO
	#2	0	OTHER
	#4.5	4.7	SECAM MODE
	#6	-	NC
	#7	9	
IC7209	#1.2.3.9.22.23.28.29.30	4.5	INPUT VIDEO
	#4.8	4	
	#5	9	
	#6.7.17.18	1.4	
	#10.11.13.15.	2.4	
	#12.24	0	
	#14	5	
	#16.19	3.4	
	#20	10.3	
	#25	0	NT MODE
	8.3	PAL MODE	
	4.6	SECAM MODE	
#26.27	5.2		

CIRCUIT	SYMBOL	VOLTAGE	CONDITION
Q705	B	4	
	E	4.6	
	C	0	
Q706	B	1.6	
	E	2.2	
	C	0	
Q707	B	4	
	E	3.4	
	C	8	
Q7401	B	3.9	
	E	3.2	
	C	9	
Q7402	B	3	
	E	2.3	
	C	5	
Q7403	B	4.5	
	E	3.8	
	C	9	
Q7404	B	7	
	E	0	
	C	0.4	
Q7405	B	1.2	
	E	1.8	
	C	0	
Q7406	B	1.7	
	E	1.3	
	C	0	
Q7407	B	1.1	
	E	1.7	
	C	0	
Q7408	B	1.6	
	E	2.2	
	C	0	
Q7409	B	3.4	
	E	4	
	C	0	
Q7201	B	4.5	SECAM MODE
	E	0	OTHER
	C	0	SECAM MODE
Q7202	B	4	NT/PAL COLOR MODE
	E	0	OTHER
	C	0	NT/PAL COLOR MODE
Q7204	B	4.4	
	E	3.7	
	C	9	
Q7205	B	3	
	E	2.3	
	C	9	
Q7206	B	3	
	E	2.3	
	C	6.3	
Q7207	B	6.3	
	E	5.6	
	C	9	
Q7209	B	4.1	
	E	3.4	
	C	9	
Q7210	B	4.5	SECAM MODE
	E	0	OTHER
	C	0	
Q7211	B	2.4	PAL MODE
	E	0	OTHER
	C	0	PAL MODE
		4.5	OTHER

# SCHEMATIC DIAGRAMS

## VOLTAGE

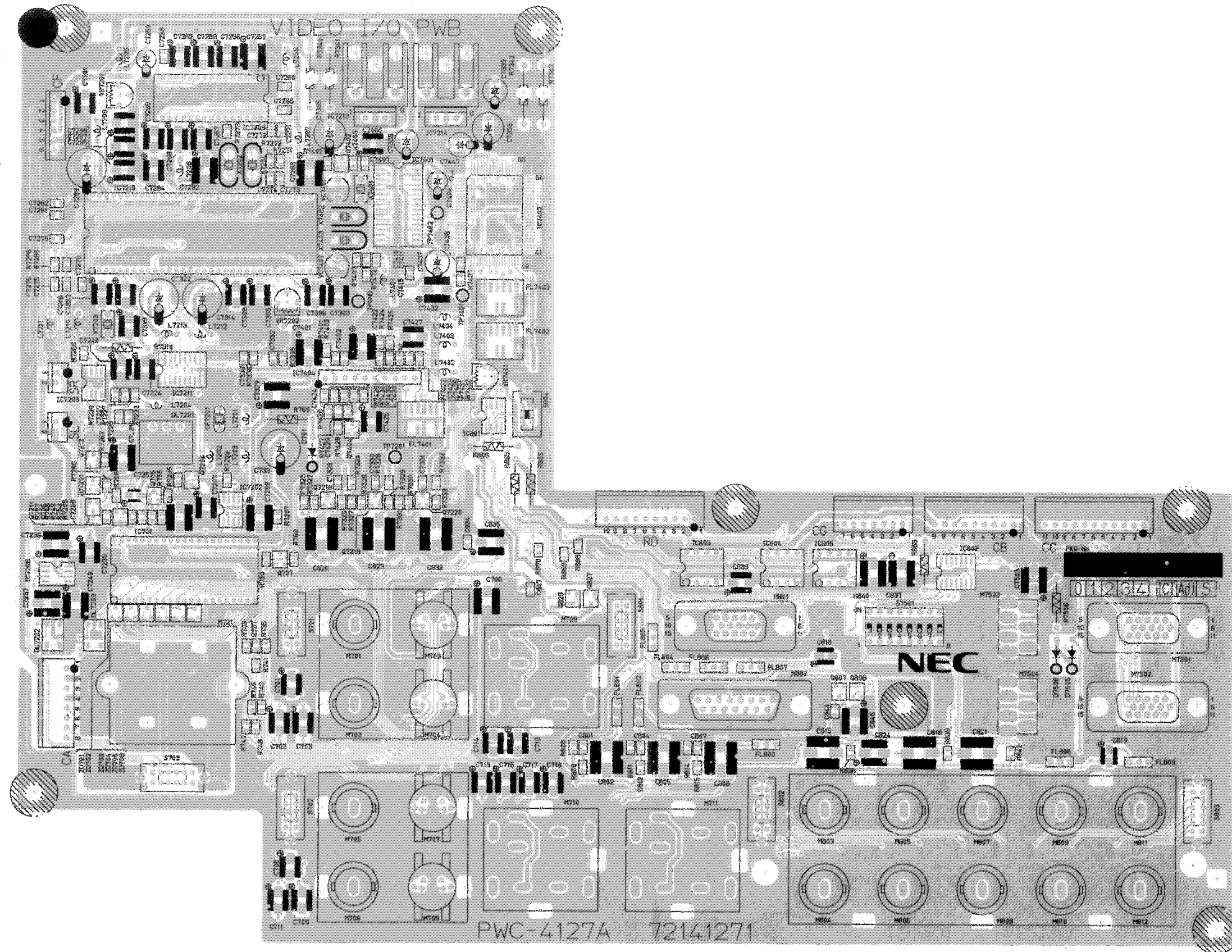
CIRCUIT	SYMBOL	VOLTAGE	CONDITION
IC7210	#1.3.26.43.	6.1	INPUT VIDEO
	#2	7.7	
	#4.55	3.8	
	#5.19.36.50.59	9	
	#6.16.17.18.25.52.57	2.2	
	#7.31.37.38.	5.1	
	#8.45.54	5.6	
	#9	0.4	
	#10	1.3	
	#11.28.40.41.44	3.2	
	#12.15.27.46.62	0	
	#13.14.22.23.24.33.64	4.1	
	#20	4.8	
	#21	4.1	OSD ON
	#29	7.4	
	#30.32.48.56	4.5	
	#34	6.4	
	#35	1.3	
	#39	0	NT MODE
		8.3	PAL MODE
		4.6	SECAM MODE
	#42	8	NT MODE
		6.1	PAL MODE
	#47	8	PAL MODE
		6.1	NT MODE
	#49.51.53	1.8	
#58.60.63	2.8		
IC7211	#1.4.8.15	0	INPUT VIDEO
	#2.9.14	7.8	
	#3.11.13.16	9	
	#5	4.7	
	#6	-NC	
	#7.12	8	
#10	1.2		
IC7213	#1	10.6	
	#2	0	
	#3	5	
IC7214	#1	11.5	
	#2	0	
	#3	9	
IC801	#1.2	NC	
	#3	0	R/W MODE
		5.1	R MODE
	#4	0	
	#5.6	4.7	
#7.8	5.1		
IC802	#1.2.3	4	
	#4	3.7	
	#5.6	11.8	VIDEO MODE
		0	RGB MODE
	#7	0	
	#8	3.3	
	#9.10	4.4	VIDEO MODE
		3.3	RGB MODE
	#11	4.4	
#12.13	0	VIDEO MODE	
#14	11.8	RGB MODE	
	11.8		
IC803	#1.4	0	
	#2	3.3	RGB1 MODE
		5	RGB2 MODE
	#3	0.6	
	#5.6	-NC	
	#7	3.3	
#8	11.8		
IC804	#1.7	3.7	
	#2.6	0.6	
	#3	1.8	RGB1 MODE
		5.3	RGB2 MODE
	#4	0	
	#5	4.9	RGB2 MODE
	#8	1.3	RGB1 MODE
	11.8		
IC805	#1.4	0	
	#2	4.6	RGB1 MODE
		1.8	RGB2 MODE
	#3	0.6	RGB1 MODE
		11.8	RGB2 MODE
	#5.6	-NC	
	#7	3.3	
	#8	11.8	

CIRCUIT	SYMBOL	VOLTAGE	CONDITION
Q7212	B	7.4	NT MODE
	E	0	OTHER
	C	0	
		4.5	SECAM MODE
		0	OTHER
Q7213	B	0	NT MODE
	E	7.6	PAL MODE
	C	4	SECAM MODE
		0	
		7.4	NT MODE
		0	OTHER
Q7214	B	0	NT MODE
	E	8.3	PAL MODE
	C	4.6	SECAM MODE
		0	NT MODE
		7.6	PAL MODE
		4	SECAM MODE
Q7215	B	4.1	
	E	0	
	C	0	
Q7216	B	0	
	E	0	
	C	4.7	
Q7217	B	0.7	
	E	0	
	C	4.7	
Q7218	B	1.2	
	E	0.6	
	C	9	
Q7221	B	5	
	E	4.4	
	C	5	
Q7222	B	4.6	
	E	4	
	C	5	
Q801	B	3.6	RGB1 MODE
	E	3	
	C	11.8	
Q804	B	3.6	RGB2 MODE
	E	3	
	C	11.8	
Q813	B	3.6	VIDEO MODE
	E	3	
	C	11.8	
Q807	B	0	RGB1 MODE
	E	11.8	
	C	11.8	
Q808	B	1.7	RGB1 MODE
	E	0	
	C	0	
Q810	B	0	RGB2 MODE
	E	11.8	
	C	11.8	
Q811	B	2.9	RGB2 MODE
	E	0	
	C	0	
Q816	B	0	VIDEO MODE
	E	11.8	
	C	11.8	
Q817	B	11.8	VIDEO MODE
	E	0	
	C	0	
Q818	B	7.1	
	E	6.5	
	C	11.8	
Q819	B	11.8	VIDEO MODE
	E	0	
	C	0	

CIRCUIT	SYMBOL	VOLTAGE	CONDITION
Q820	B	0	VIDEO MODE
	E	0	
	C	11.8	
Q821	B	0	1 MODE
	E	3	2 MODE
	C	0	
		9.7	1 MODE
		0	2 MODE
Q823	B	9.7	1 MODE
	E	0	
	C	0	
Q824	B	0	1 MODE
	E	0	
	C	5.8	
Q7502	B	0.6	
	E	0	
	C	0	
Q7503	B	0	
	E	0	
	C	4.9	

CIRCUIT	SYMBOL	VOLTAGE	CONDITION
CA	#1.3	3.7	NON INPUT
	#5.7	0	
	#2.4.6.8	0	
SR	#1	0	NON INPUT
	#2	0	
SL	#1	0	NON INPUT
	#2	0	
CF	#1.2	4.1	
	#3	0	VIDEO MODE
		3	RGB1 MODE
		3.6	RGB2 MODE
	#4	0	1 MODE
	#5	4.1	2 MODE
#6	14.9		
	0		
RD	#1.3.5	1.4	VIDEO MODE
	#9	0.7	
	#2.4.6.7.8.10	0	
CG	#1	4.4	
	#3	4	
	#5	6.5	
	#2.4.6.7	0	
CC	#1.2.3.5.11	0	
	#4.6	-9.5	
	#7.8.9.10	2.8	
CB	#1.2	4.9	
	#3.4.5.6.8	0	
	#7	5	
	#9	11.8	

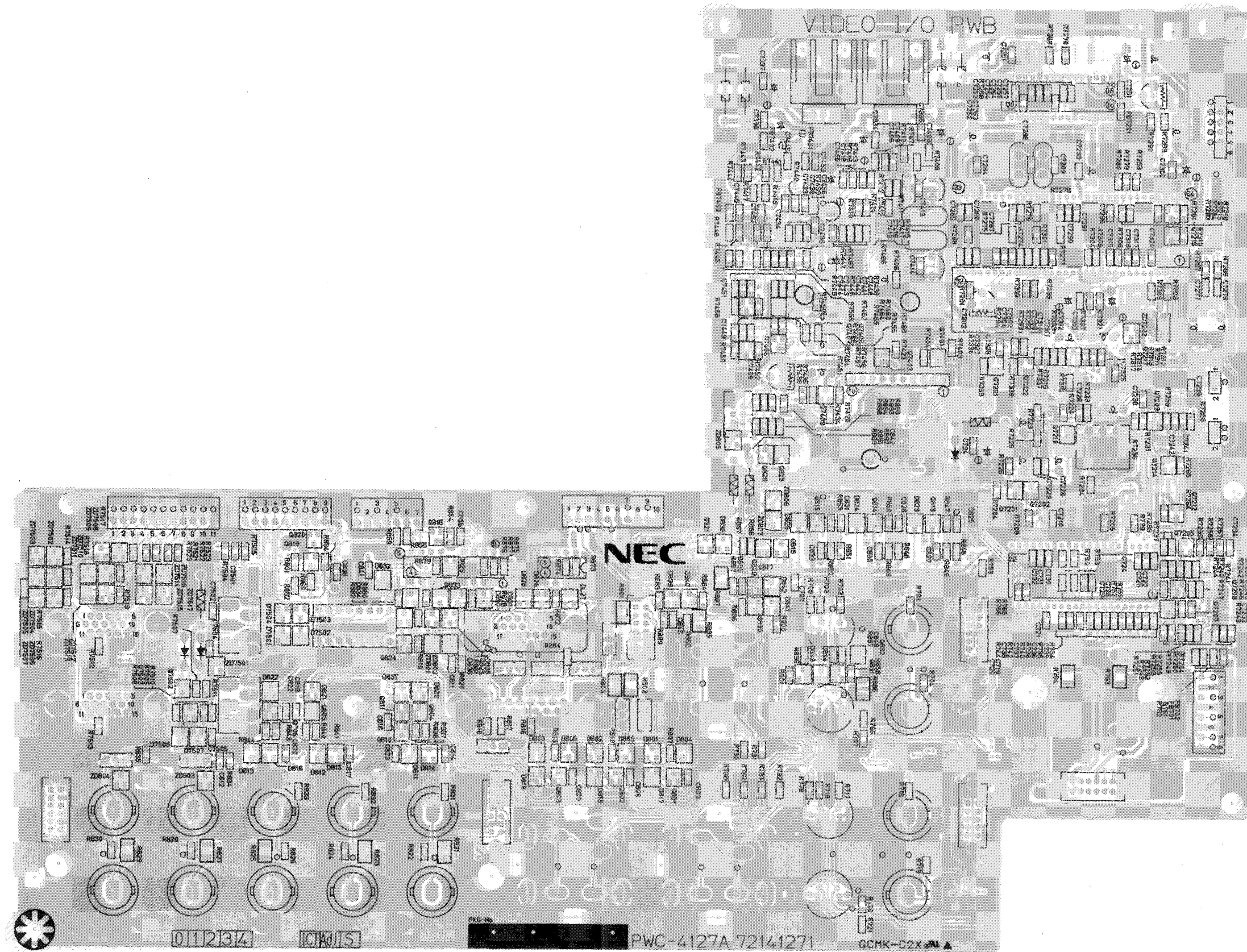
VIDEO I/O PWB (PWC-4127A)  
PARTS SIDE



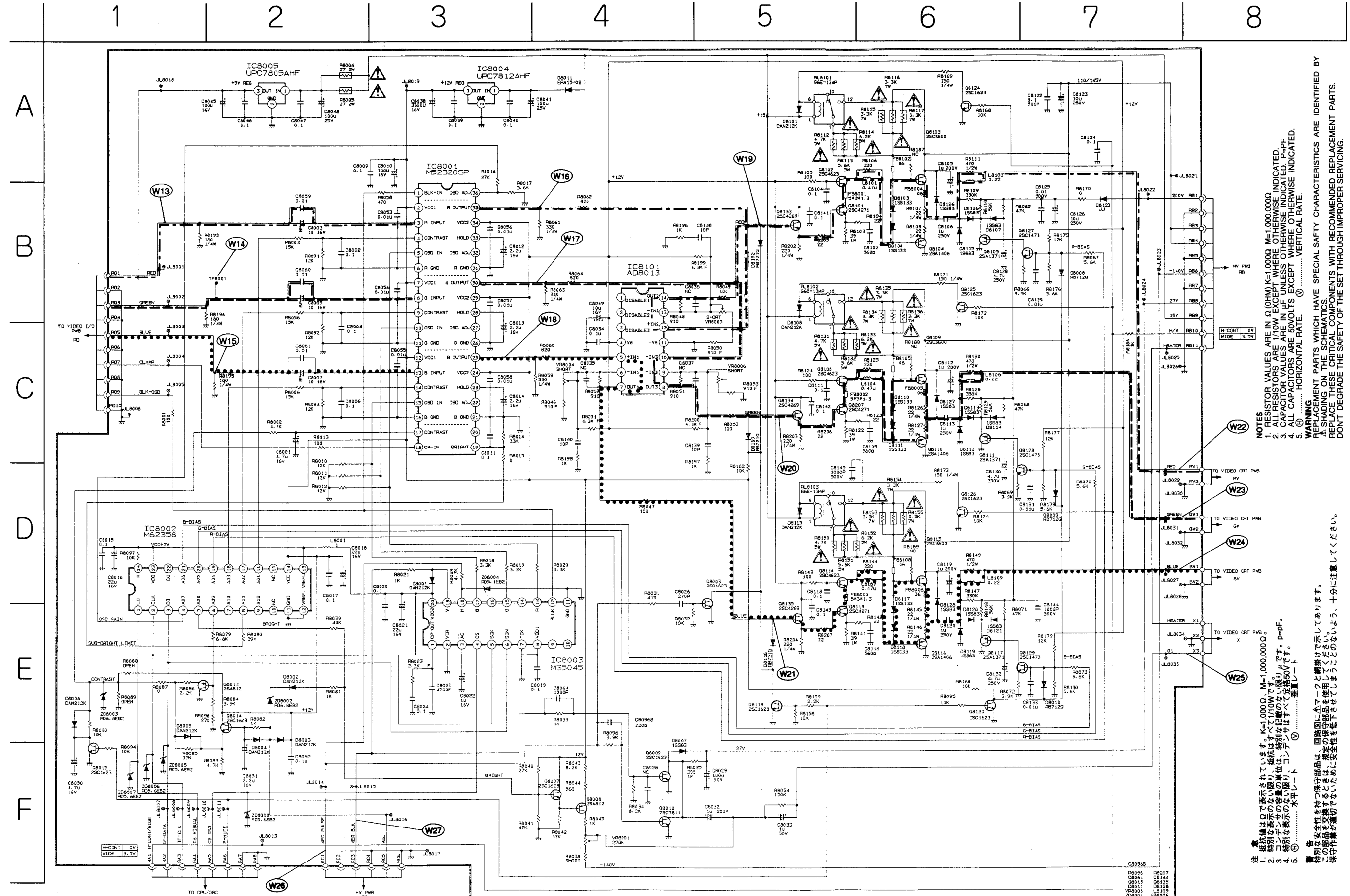
SCHEMATIC DIAGRAMS

VIDEO I/O PWB (PWC-4127A)

SOLDER SIDE



RGB-OUT PWB (PWC-4127B)



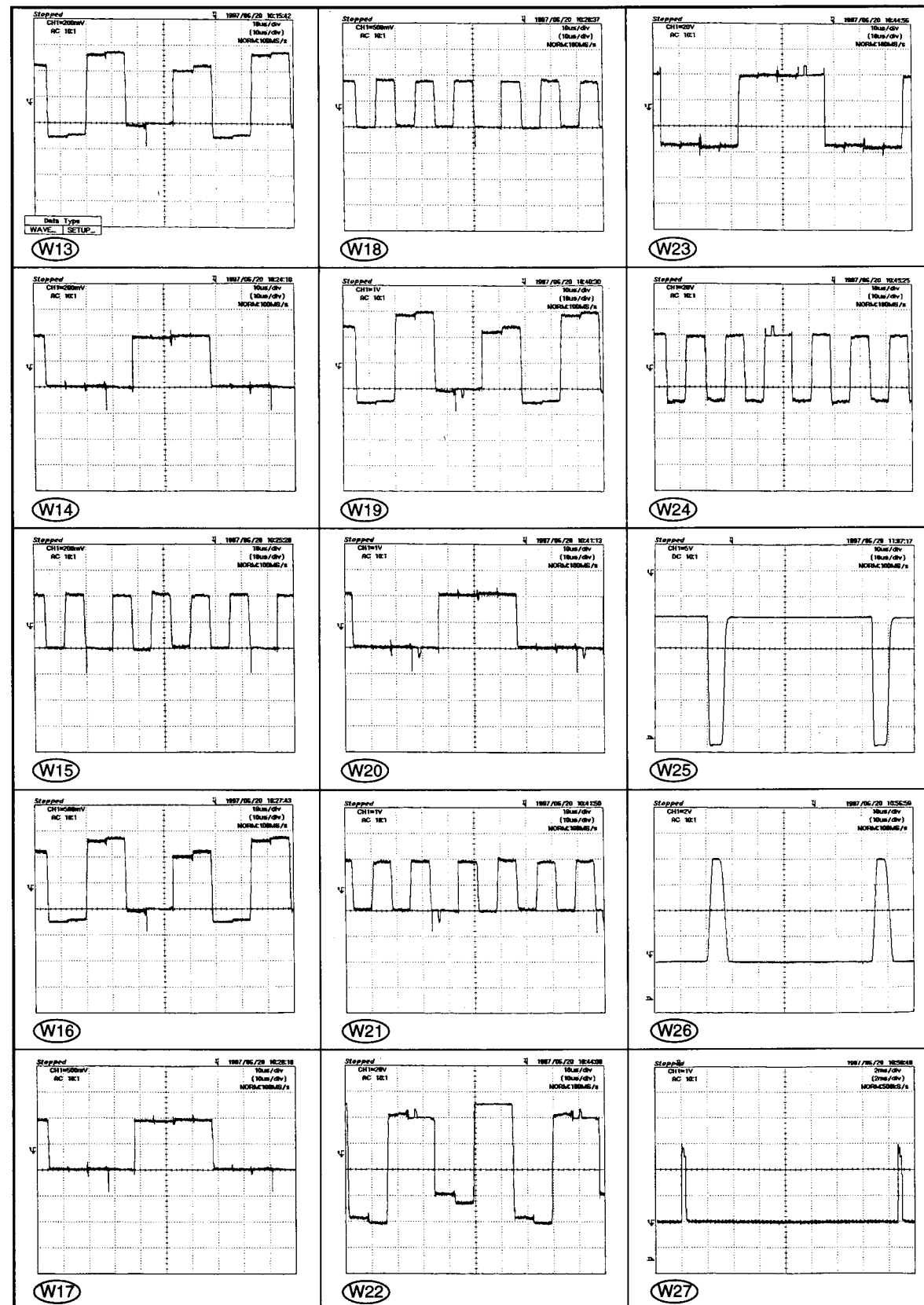
NOTES  
 1. RESISTOR VALUES ARE IN  $\Omega$  (OHM)  $K=1,000\Omega$   $M=1,000,000\Omega$   
 2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.  
 3. CAPACITOR VALUES ARE IN  $\mu F$  UNLESS OTHERWISE INDICATED. P-PF.  
 4. ALL CAPACITORS ARE 50VOLT EXCEPT WHERE OTHERWISE INDICATED.  
 5.  $\text{---}$  HORIZONTAL RATE.  $\text{---}$  VERTICAL RATE.

WARNING  
 PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY REPLACING ON THE SCHEMATICS WITH RECOMMENDED REPLACEMENT PARTS. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

注  
 1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ です。  
 2. 特別な値は $\Omega$ の単位で表示されています。1/10Wの定格電力です。  
 3. コンデンサの容量の単位は $\mu F$ です。P-PF。  
 4. 特別な値は50Vの定格電圧で表示されています。  
 5.  $\text{---}$  水平レートの単位、 $\text{---}$  垂直レートの単位。  
 警告  
 特別な安全性を持つ部品は、回路図に△マークと網印で示してあります。これらの部品を交換するときは、推奨の部品に交換してください。推奨の部品に交換しないままに交換すると、製品の安全性が低下する可能性があります。製品の安全性を確保するために、推奨の部品に交換してください。推奨の部品に交換しないままに交換すると、製品の安全性が低下する可能性があります。製品の安全性を確保するために、推奨の部品に交換してください。

# SCHEMATIC DIAGRAMS

## RGB-OUT PWB (PWC-4127B) WAVE FORM



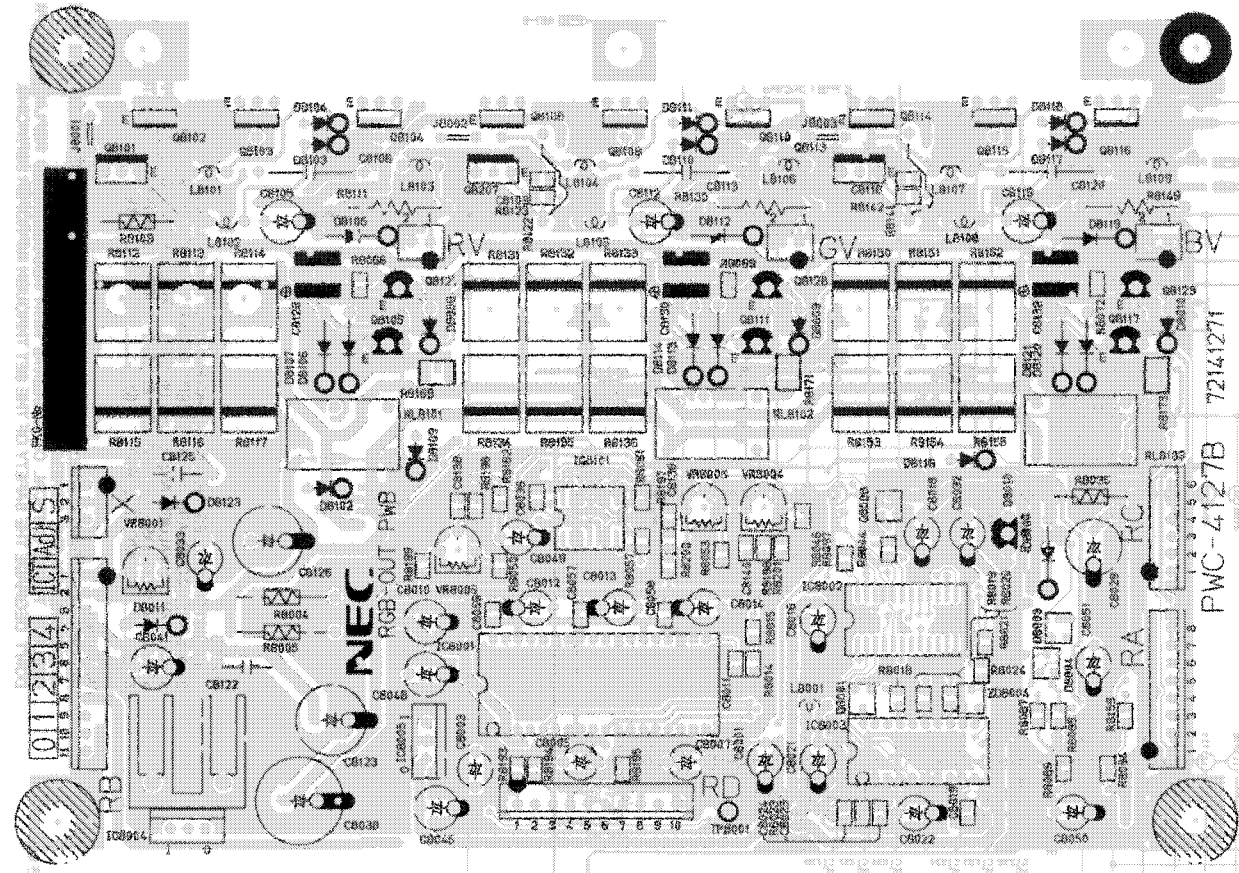
## VOLTAGE

CIRCUIT	SYMBOL	VOLTAGE	CONDITION
IC8001	#1	0.8	OSD ON
		0	OSD OFF
	#2.7.12.24.29.34	12	
	#3.8.13	2.6	INPUT VIDEO
	#4	1.9	(0.3-2.3)R-SUB CONT
	#9	1.8	(0.3-2.3)G-SUB CONT
	#14	1.7	(0.3-2.3)B-SUB CONT
	#5.10.15	0.5	
	#17	4.3	(1.6-5.2)MAIN CONT
	#18	0.1	
	#19	2.2	(0-4.1)BRIGHT LIMIT
	#23.28.33	4.4	
	#25.30.35	2.4	
	#36	1	
#6.11.16.26.31	0		
#20.22.27.32	-	NC	
IC8002	#1	4.2	
	#2	3.7	
	#3	0.3	
	#4	5.8	(0-9)OSD-GAIN
	#5	5.5	(2.5-8.5)BRIGH
	#6	8.8	(0-12)MAIN CONT
	#8	8.8	(0-12)BRIGH LIMIT
	#13.23.24	5	
	#14	12	
	#16	4.1	(0-5)R-SUB CONT
	#17	4.3	(0-5)G-SUB CONT
	#18	3.7	(0-5)B-SUB CONT
	#19	6.1	(0-9)R-BAIS
	#20	6.8	(0-9)G-BAIS
#21	7.5	(0-9)B-BAIS	
#7.9.10.15.22	-	NC	
#11.12	0		
IC8003	#1	1.5	
	#4	3.3	
	#5	3.7	
	#6.18	0.4	
	#12.13.15.17	0.7	
	#2.7.11.19	0	
	#3.8.20	5	
#9.10.14.16	-	NC	
IC8101	#1.2.3	-	NC
	#4	12	
	#5.6.9.10.12.13	2.4	
	#7.8.14	2.8	
#11	0		
IC8004	#1	14	
	#2	0	
	#3	12	
IC8005	#1	14.5	
	#2	0	
	#3	5	
Q8003	B	0	
	E	0	
	C	11.8	
Q8007	B	6.9	(5.9-8)
	E	6.4	(5.4-7.4)
	C	12	
Q8008	B	6.4	(5.4-7.4)
	E	-10	(-34.3-3.8)
	C	7	(6-7)
Q8009	B	0.1	
	E	0	
	C	24.1	
Q8010	B	0	
	E	0	
	C	24.1	
Q8013	B	3.4	(0-4.6)
	E	4	(0.6-5.0)
	C	0	
Q8014	B	12.5	
	E	11.9	
	C	12	
Q8015	B	0	
	E	0	
	C	4.4	

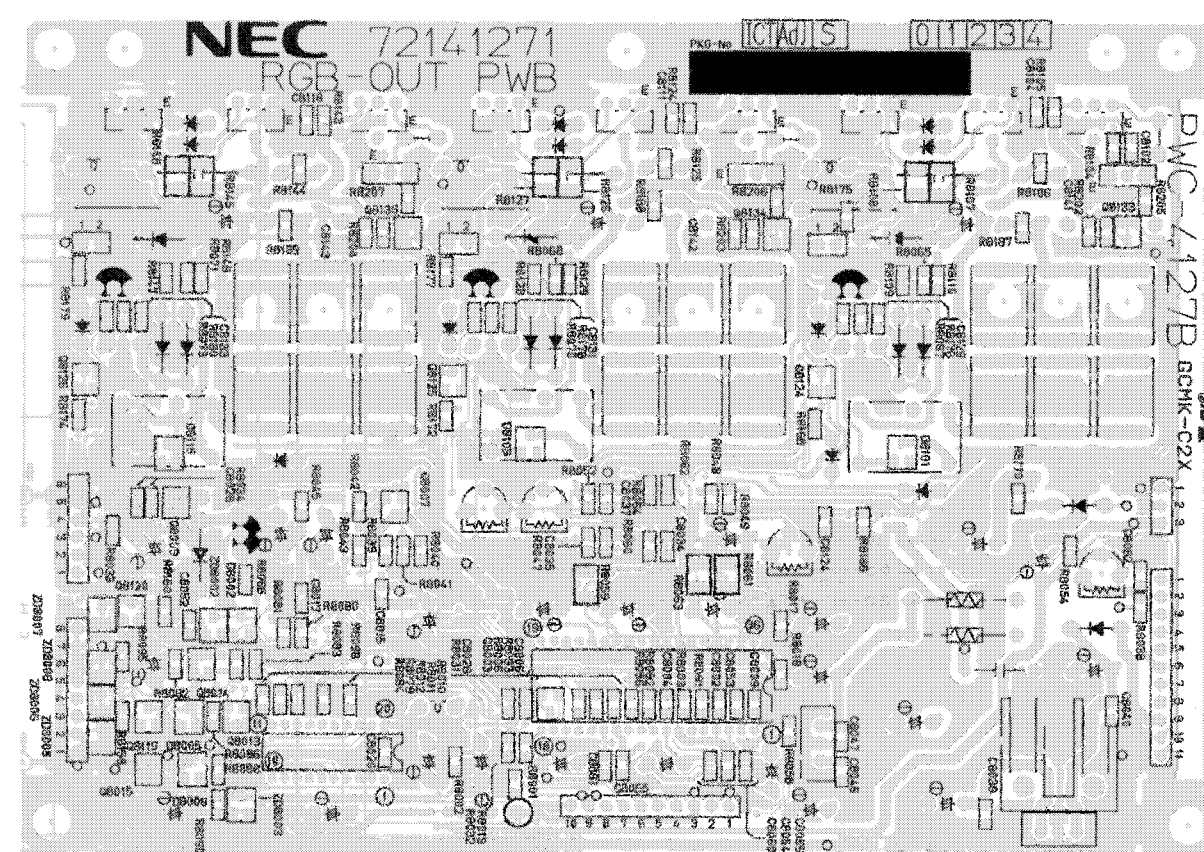
CIRCUIT	SYMBOL	VOLTAGE	CONDITION
Q8101	B	2	
Q8107	E	1.4	
Q8113	C	11.4	
Q8102	B	12	
	E	11.4	
	C	10.4	
Q8103	B	105.5	
	E	105.1	
	C	140	
Q8104	B	104.1	
	E	104.8	
	C	0	
Q8105	B	160	(143.3-193.3)
	E	161	
	C	0	
Q8119	B	0	P-MUTE OFF
	E	0	
	C	11.8	
Q8120	B	0	P-MUTE OFF
	E	0	
	C	11.8	
Q8124	B	0	CONT MODE1
	E	0.7	CONT MODE2
	C	0	
Q8126	E	14.7	CONT MODE1
	C	0	CONT MODE2
Q8127	B	4.8	(2.3-5.9)
	E	4.2	(1.7-5.38)
	C	160	(143.5-193.3)
Q8133	B	2.8	
	E	2	
	C	12	
RV	#1	128.7	
	#2	0	
GV	#1	126.6	
	#2	0	
BV	#1	128.2	
	#2	0	
X	#1	6	
	#2	0	
	#3	10.2	
RD	#1.3.5	1.4	
	#2.4.6.8.10	0	
	#7	0.1	
	#9	0.8	OSD ON
		0	OSD OFF
RA	#1	0	CONT MODE1
	#3	0	CONT MODE2
	#2	0.3	
	#4	3.7	
	#5	4.2	
	#6	3.3	
RB	#6	0	P-MUTE OFF
	#7.8	2.4	P-MUTE ON
		0	
RB	#1	219	
	#3	140	CONT MODE1
	#11	111	CONT MODE2
	#6	-140	
	#8	26.5	
	#9	14.7	
RC	#10	0	CONT MODE1
	#3	3	CONT MODE2
	#11	6	
RC	#1	0.7	
	#2.3.4.6	0	
	#5	12.5	

RGB OUT PWB (PWC-4127B)

PARTS SIDE

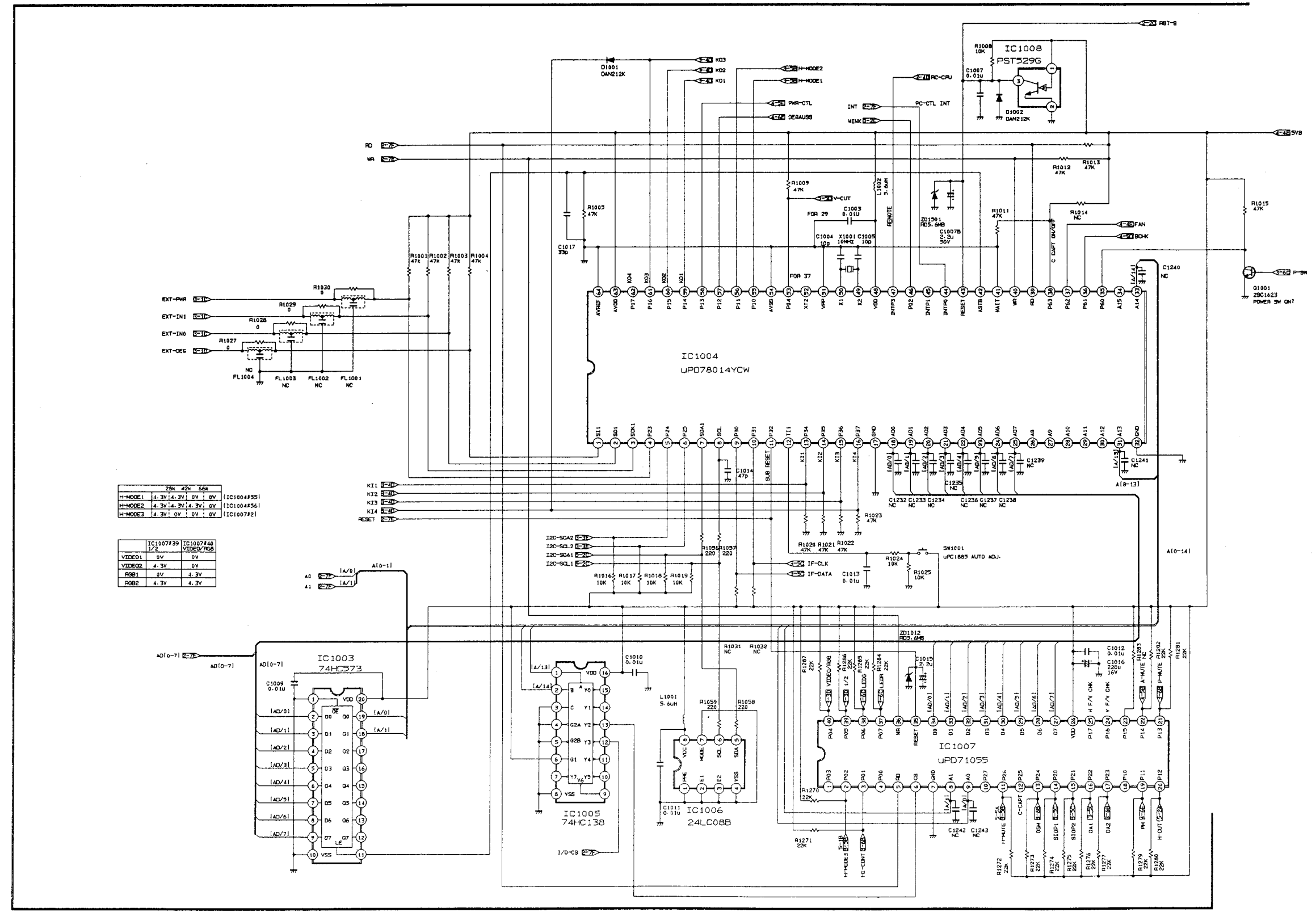


SOLDER SIDE



**SCHEMATIC DIAGRAMS**

**CPU/OSC PWB (PWC-4129) (1/5)**



	28k	42k	56k
H-MODE1	4.3V	4.3V	0V
H-MODE2	4.3V	4.3V	0V
H-MODE3	4.3V	0V	0V

IC1007#39	IC1007#40
VIDEO1	0V
VIDEO2	0V
R8B1	4.3V
R8B2	4.3V

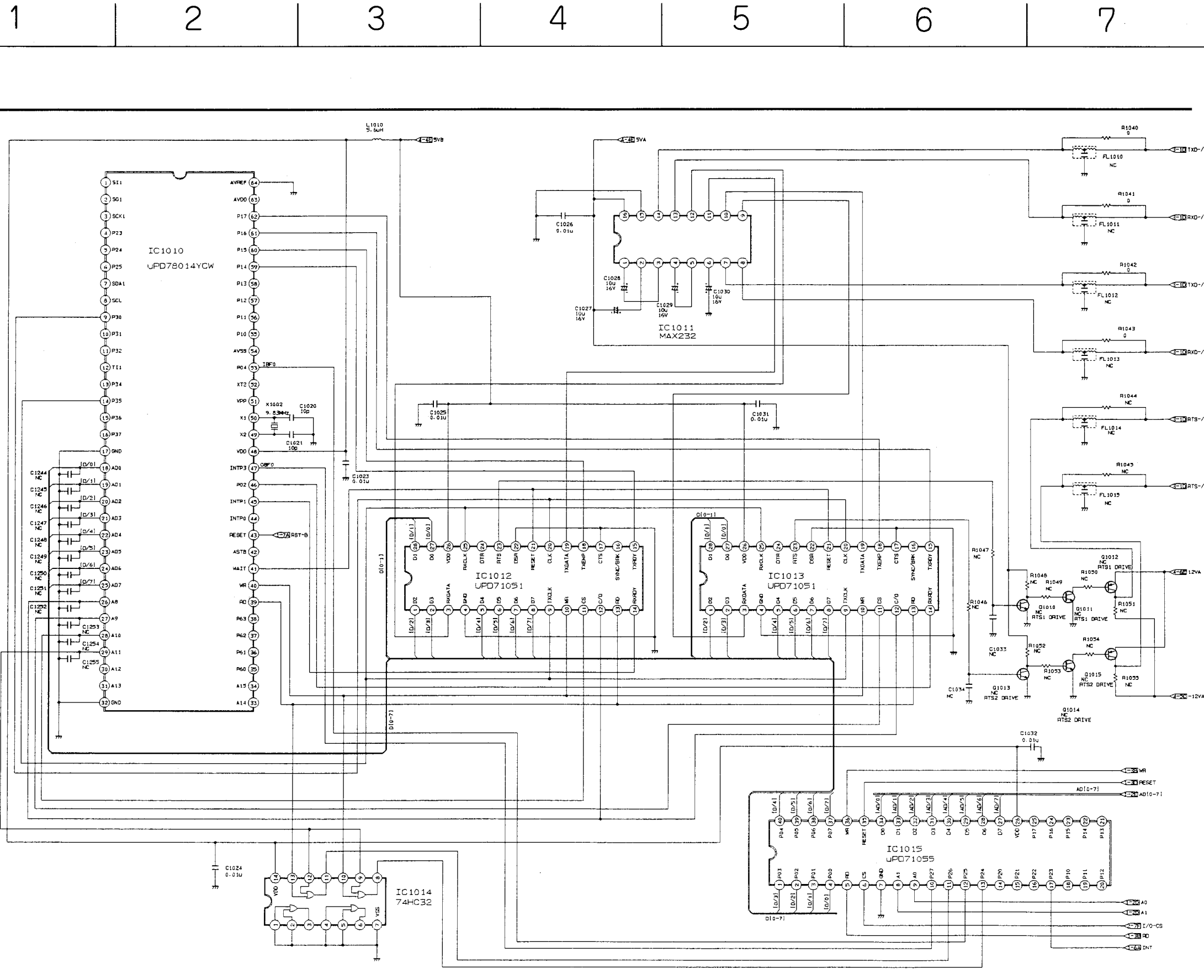
- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000 $\Omega$  M=1,000,000 $\Omega$ .
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF.
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5.  $\text{\textcircled{H}}$  ..... HORIZONTAL RATE.  $\text{\textcircled{V}}$  ..... VERTICAL RATE.

**WARNING**  
REPLACING PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY  $\Delta$  SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注**
1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ 。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。p=pF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5.  $\text{\textcircled{H}}$  ..... 水平レート  $\text{\textcircled{V}}$  ..... 垂直レート
- 警告**  
特別な安全性を持つ保守部品は、回路図に $\Delta$ マークと網掛けで示してあります。  
この部品を交換するときは、規定の保守部品を使用してください。  
保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。



CPU/OSC PWB (PWC-4129) (2/5)



- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K-1,000, M=1,000,000.
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF.
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5.  $\text{\textcircled{H}}$  ..... HORIZONTAL RATE.  $\text{\textcircled{V}}$  ..... VERTICAL RATE.
- WARNING**  
 REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
 REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
 DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注意**
1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ 。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。p=PF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5.  $\text{\textcircled{H}}$  ..... 水平レート  $\text{\textcircled{V}}$  ..... 垂直レート
- 警告**  
 特別な安全性を持つ保守部品は、回路図に△マークと斜線で示してあります。  
 この部品を交換するときは、規定の保守部品を使用してください。  
 保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

1      2      3      4      5      6      7      8

A

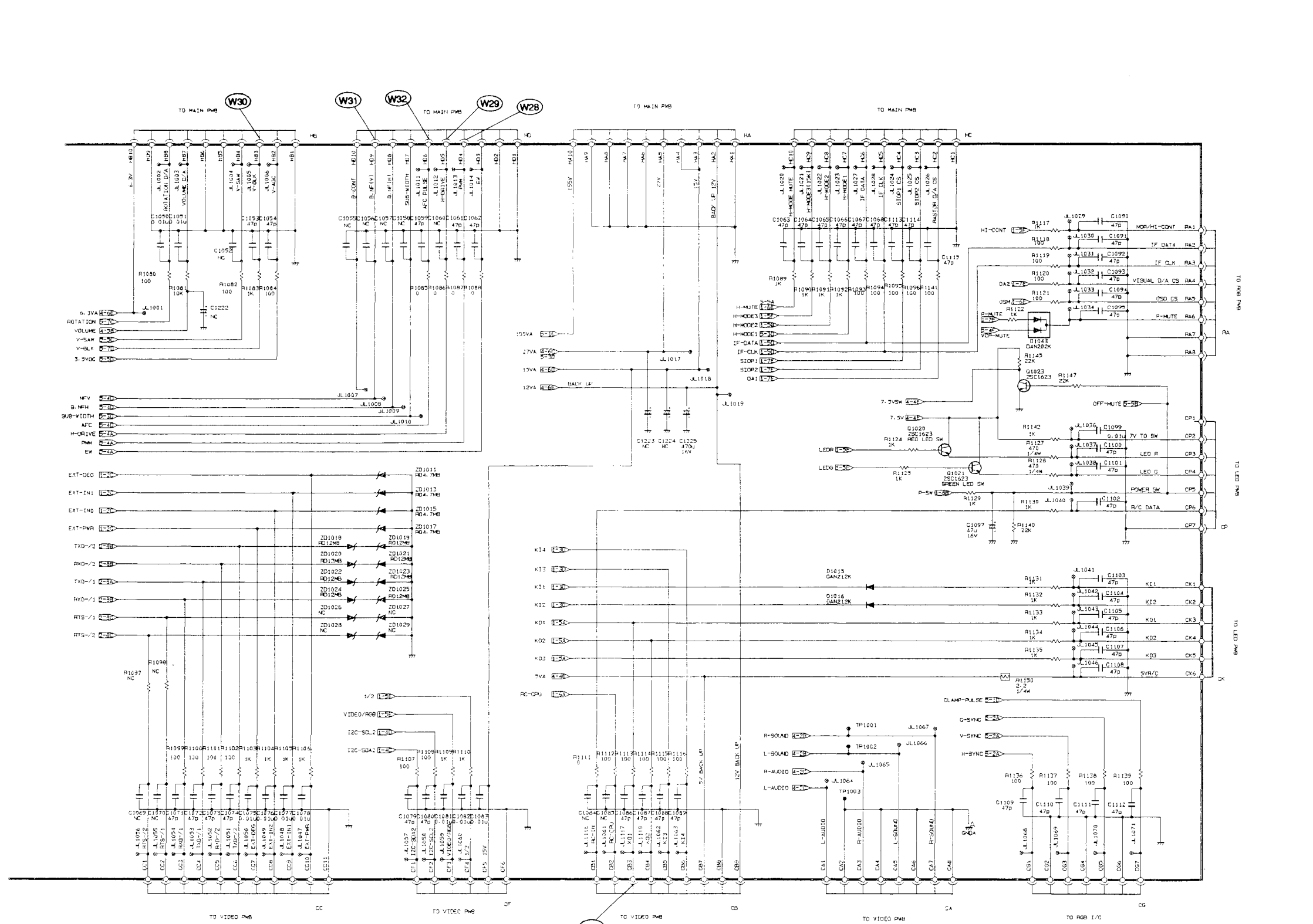
B

C

D

E

F



- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000  $\Omega$ , M=1,000,000  $\Omega$ .
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF.
  4. SPECIAL VALUES ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5. (H)..... HORIZONTAL RATE. (V)..... VERTICAL RATE.

**WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注**
1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ 。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。P=PF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5. (H)..... 水平レート (V)..... 垂直レート

**警告**  
安全性能を持つ保守部品は、回路図に△マークと縦線で示してあります。  
特別な表示のない限り、特定の保守部品を使用してください。  
この部品を交換するときは、規定の保守部品を下ろさず、十分に注意してください。  
保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

CPU/OSC PWB (PWC-4129) (4/5)

1 2 3 4 5 6 7 8

A

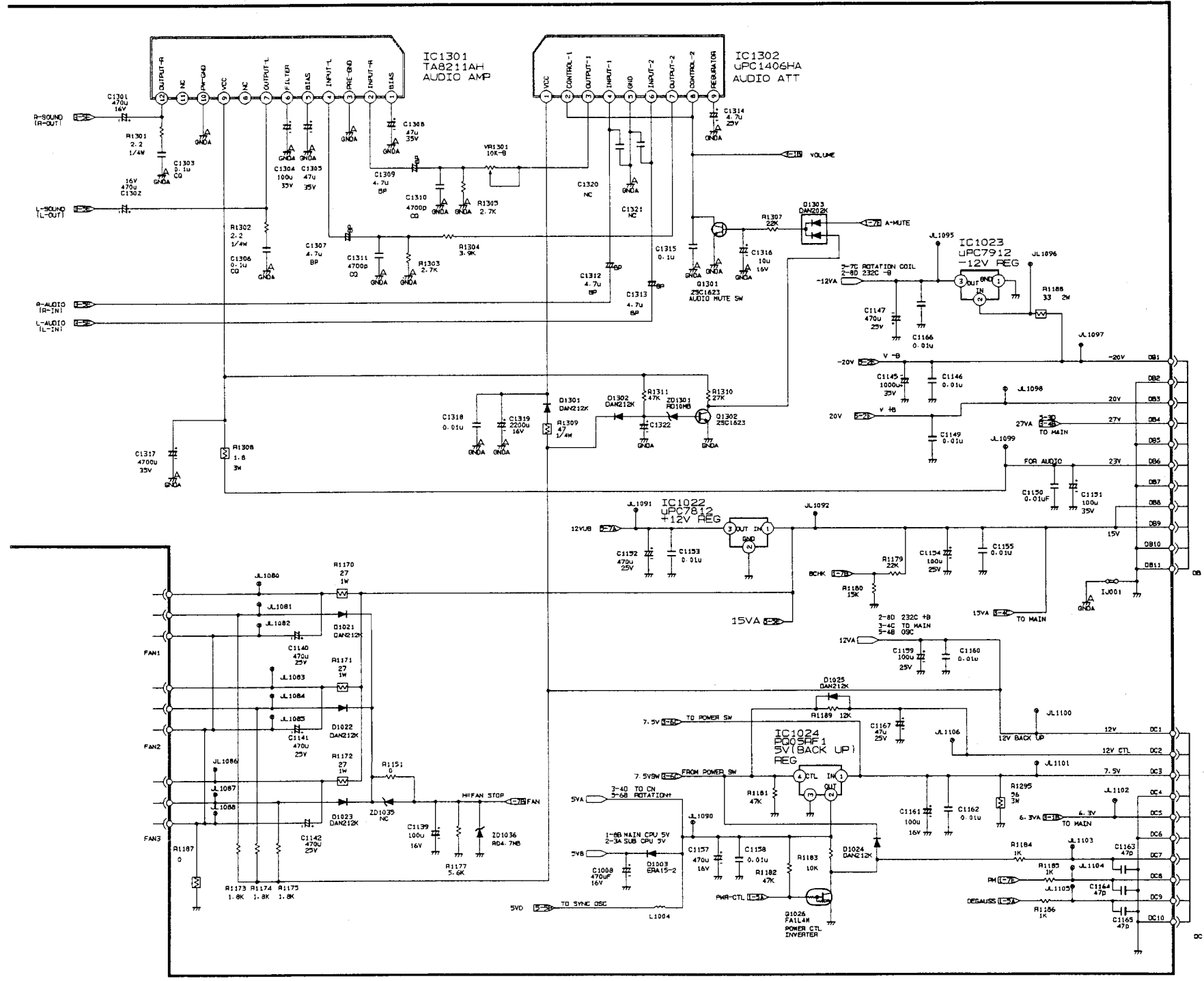
B

C

D

E

F



**NOTES**

1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000Q, M=1,000,000Q.
2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF.
4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
5. ①..... HORIZONTAL RATE. ②..... VERTICAL RATE.

**WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY SHAKING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

**注**

1. 抵抗値は $\Omega$ で表示されています。K=1,000Q、M=1,000,000Q。
2. 特別な表示のない限り、抵抗はすべて1/10Wです。
3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。P=pF。
4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
5. ①..... 水平レイト ②..... 垂直レイト

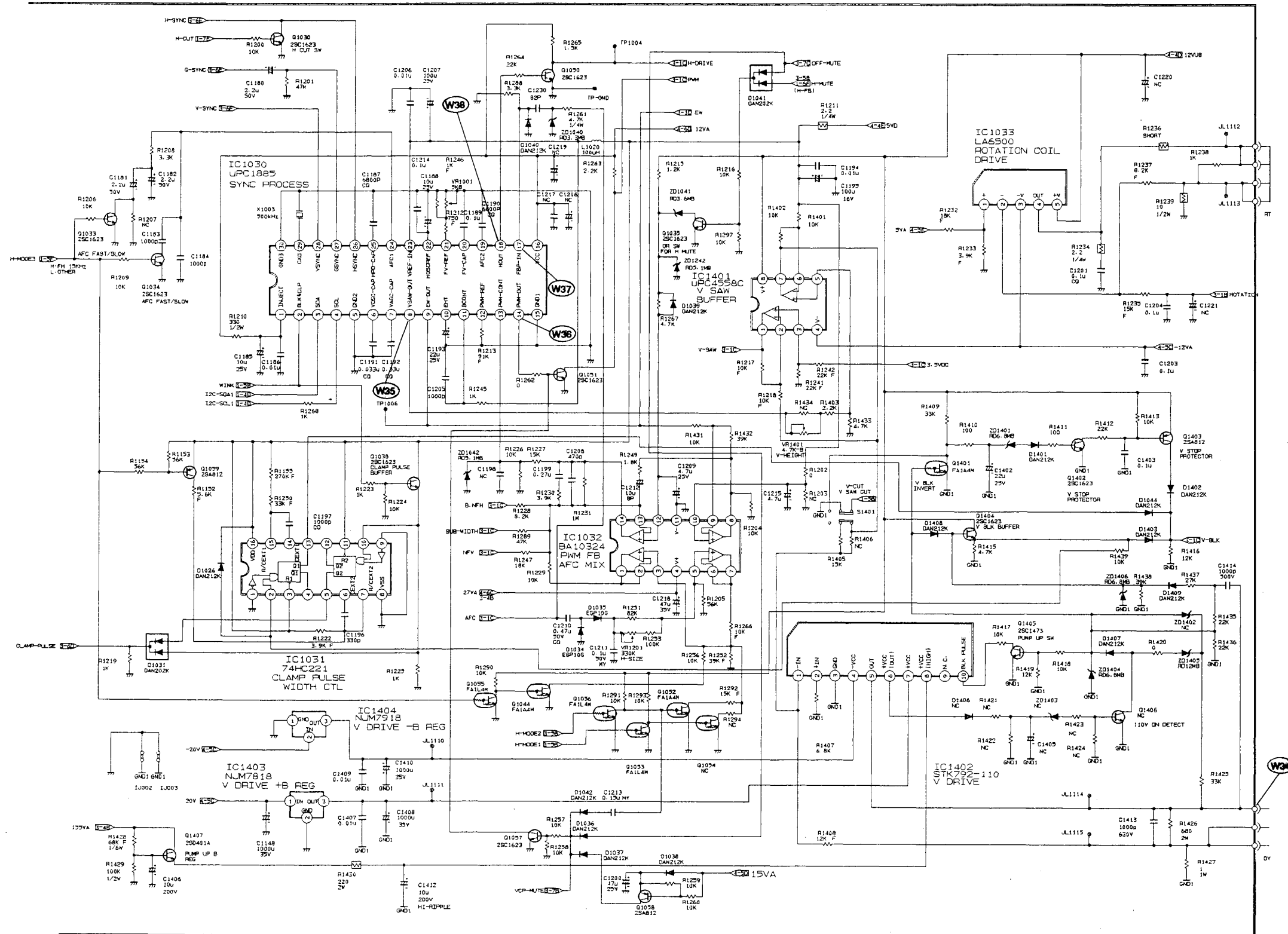
**警告**  
特別な安全性を持つ保守部品は、回路図に△マークと糊付けで示してあります。  
この部品を交換するときは、特定の保守部品を使用してください。  
保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

SCHEMATIC DIAGRAMS

CPU/OSC PWB (PWC-4129) (5/5)

1 2 3 4 5 6 7 8

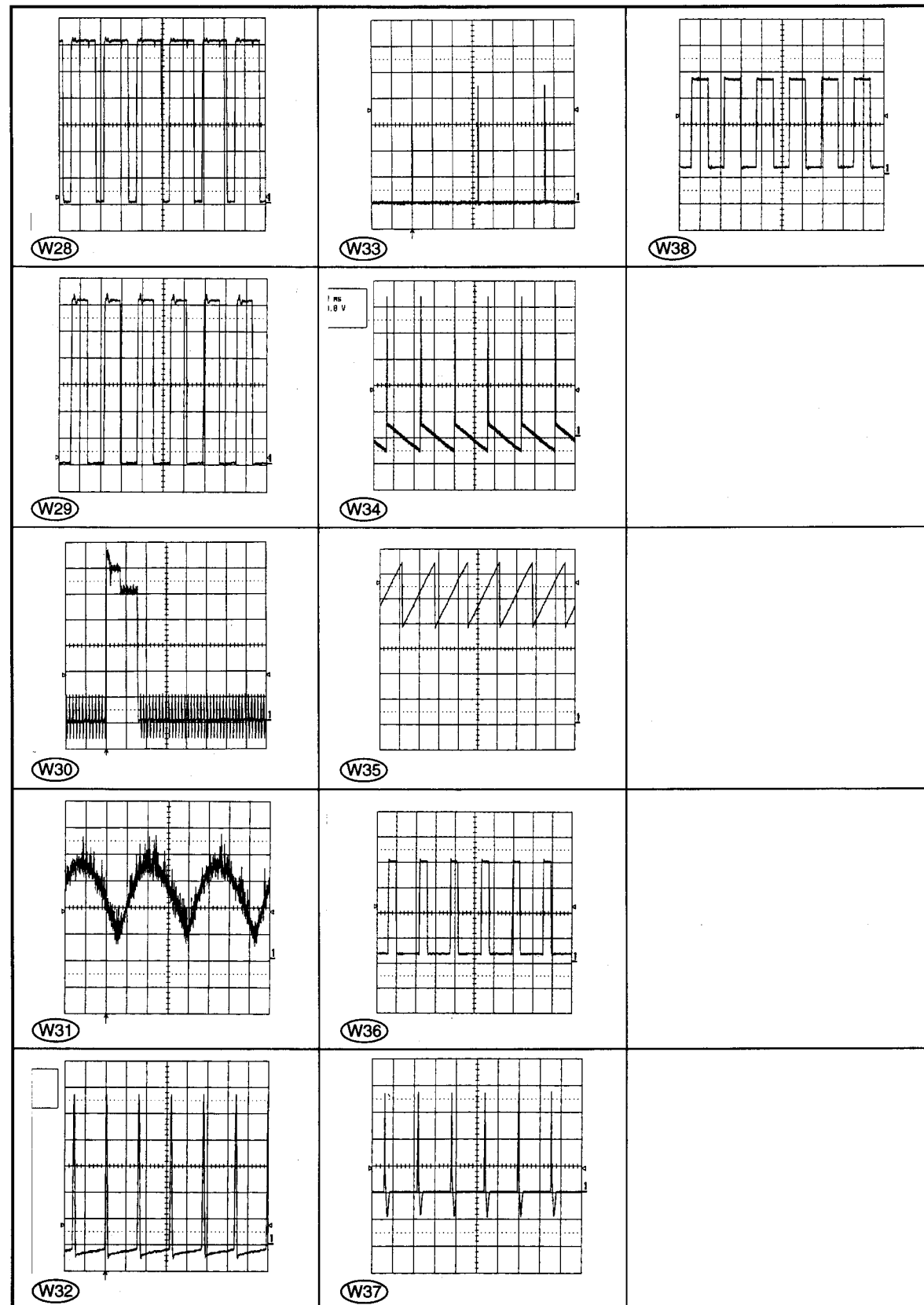
A  
B  
C  
D  
E  
F



- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM), K=1,000 $\Omega$ , M=1,000,000 $\Omega$ .
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF.
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5.  $\text{H}$ ..... HORIZONTAL RATE.  $\text{V}$ ..... VERTICAL RATE.
- WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY  $\blacktriangle$  SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

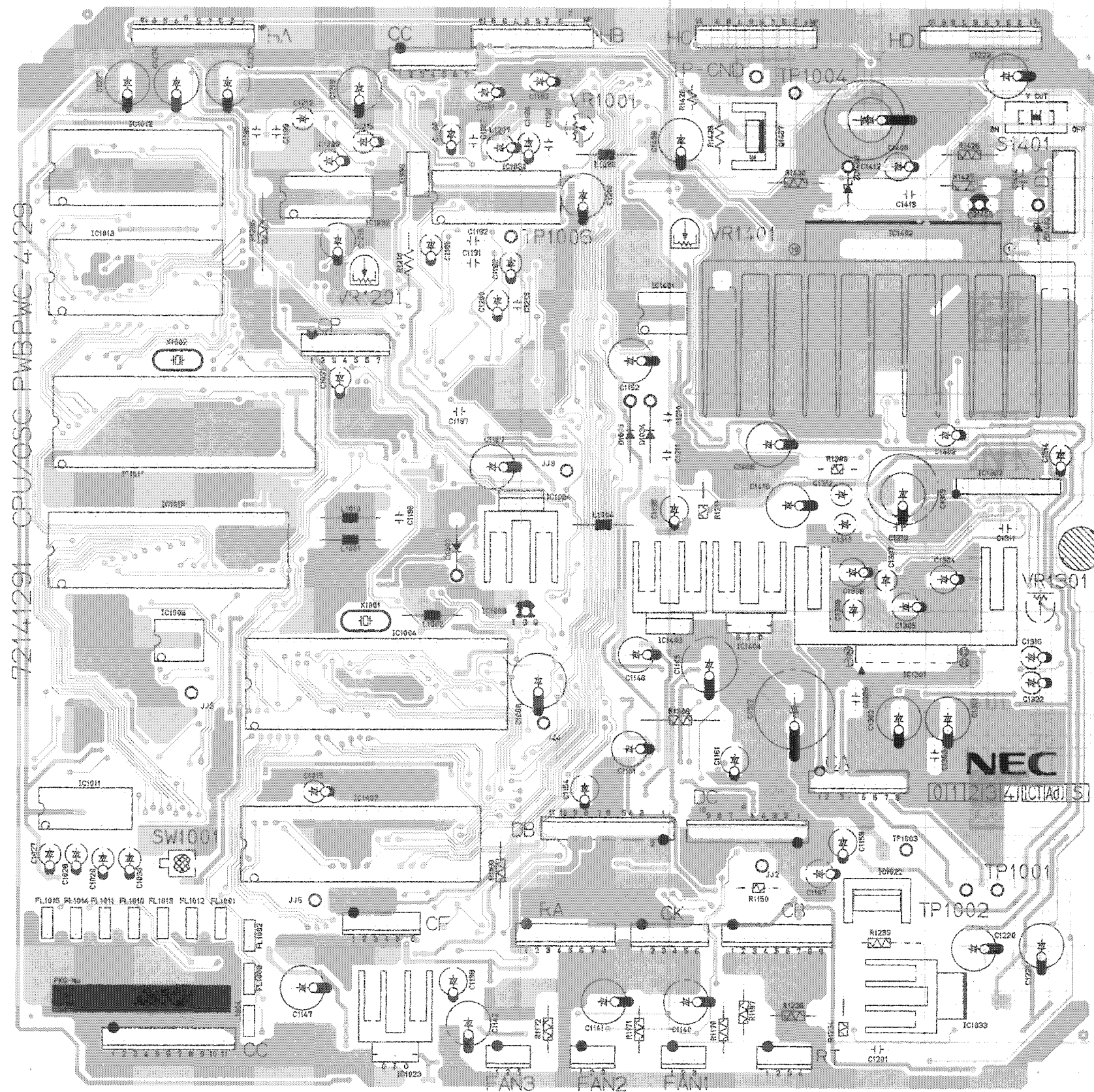
- 注意**
1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ 。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、 $\mu$ Fでない限り、pFです。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5.  $\text{H}$ ..... 水平レート  $\text{V}$ ..... 垂直レート
- 警告**  
特別な安全性を持つ保守部品は、回路図に $\blacktriangle$ マークと網掛けで示してあります。  
この部品を交換するときは、指定の保守部品を使用してください。  
保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

CPU/OSC PWB (PWC-4129) WAVE FORM

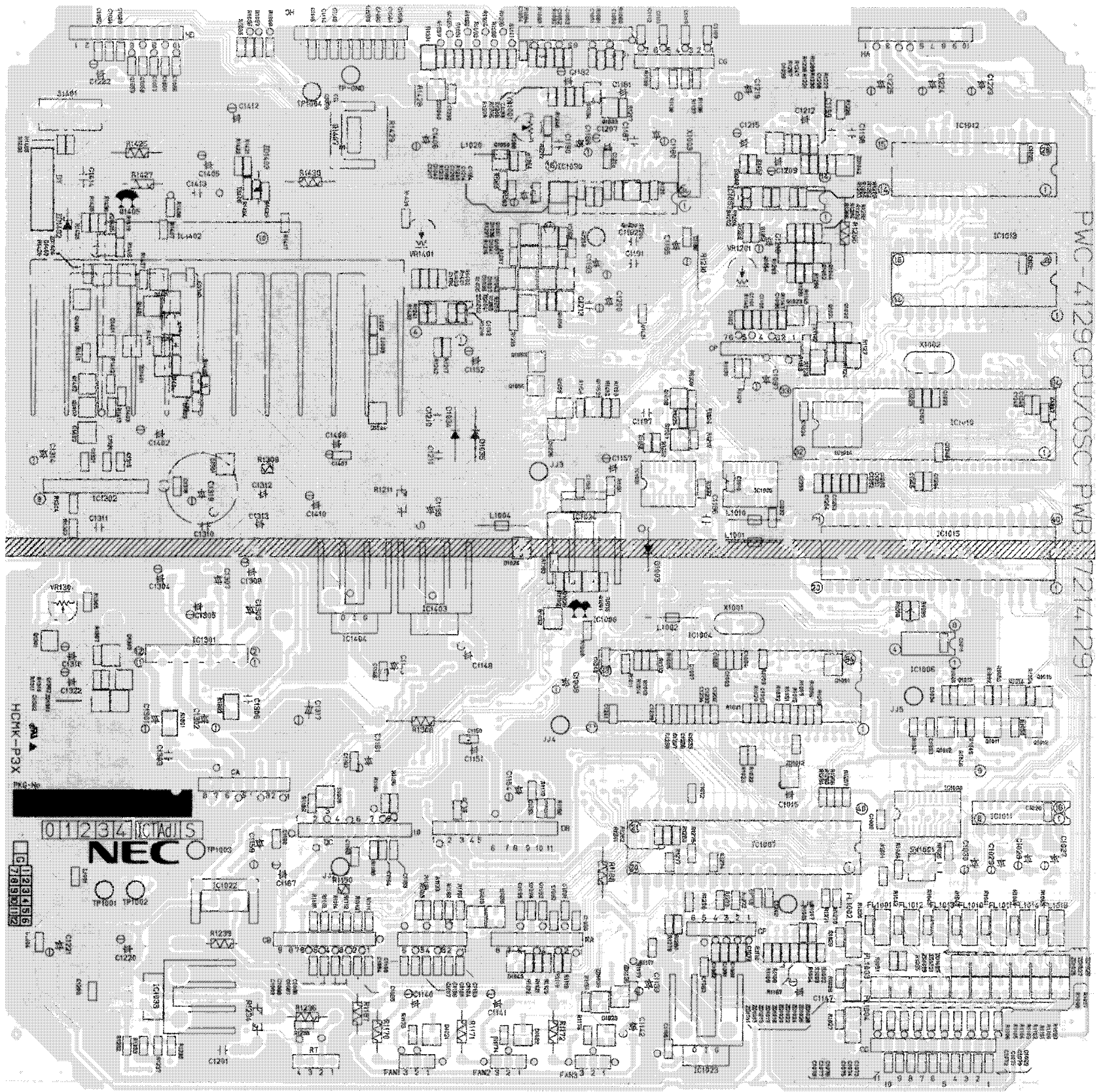


SCHEMATIC DIAGRAMS

CPU/OSC PWB (PWC-4129)  
PARTS SIDE

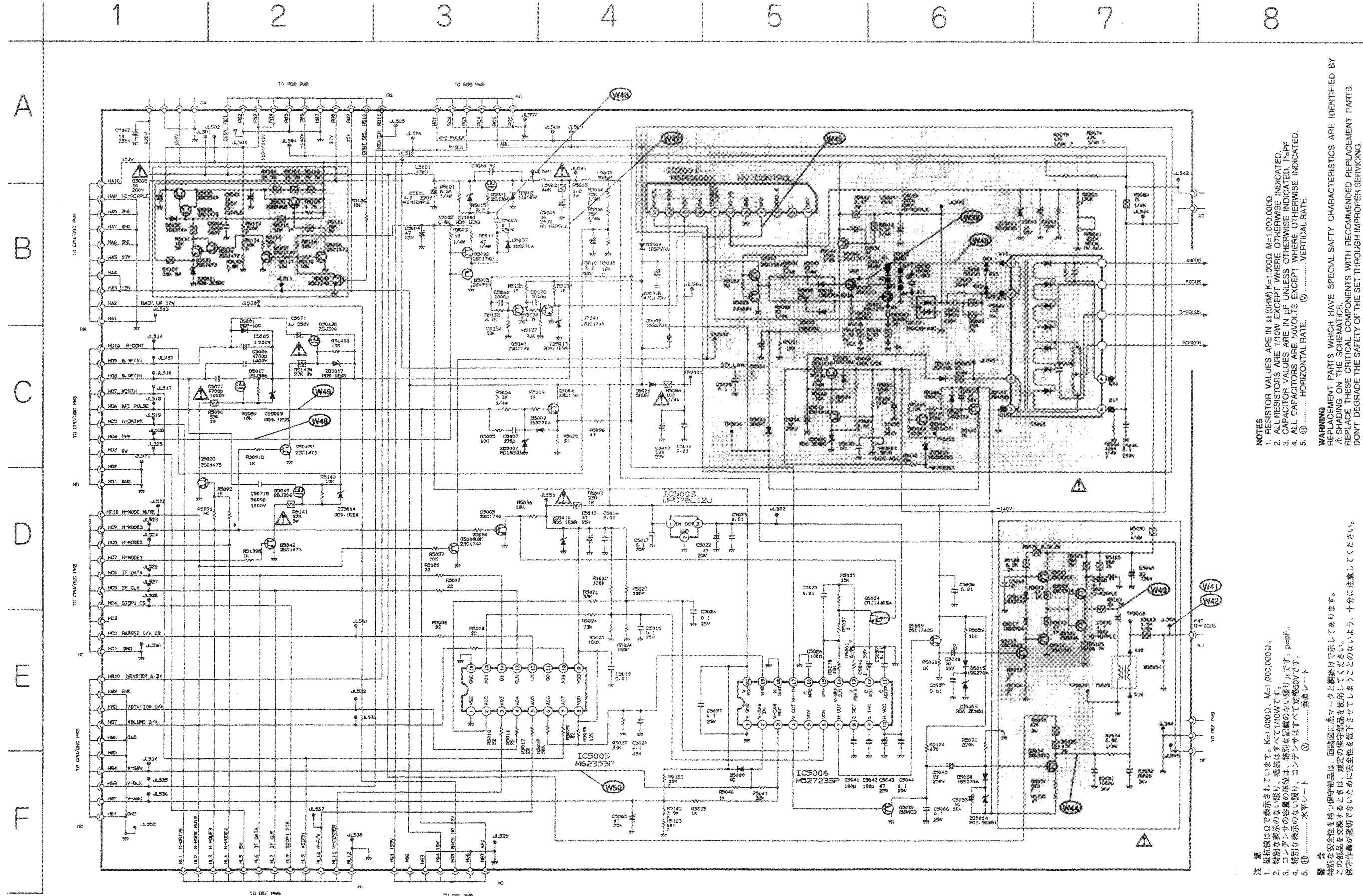


CPU/OSC PWB (PWC-4129)  
SOLDER SIDE



SCHEMATIC DIAGRAMS

HV PWB (PWC-4130)



- NOTES
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000  $\Omega$ , M=1,000,000  $\Omega$ .
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=pF.
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5.  $\text{---}$  HORIZONTAL RATE.  $\text{---}$  VERTICAL RATE.

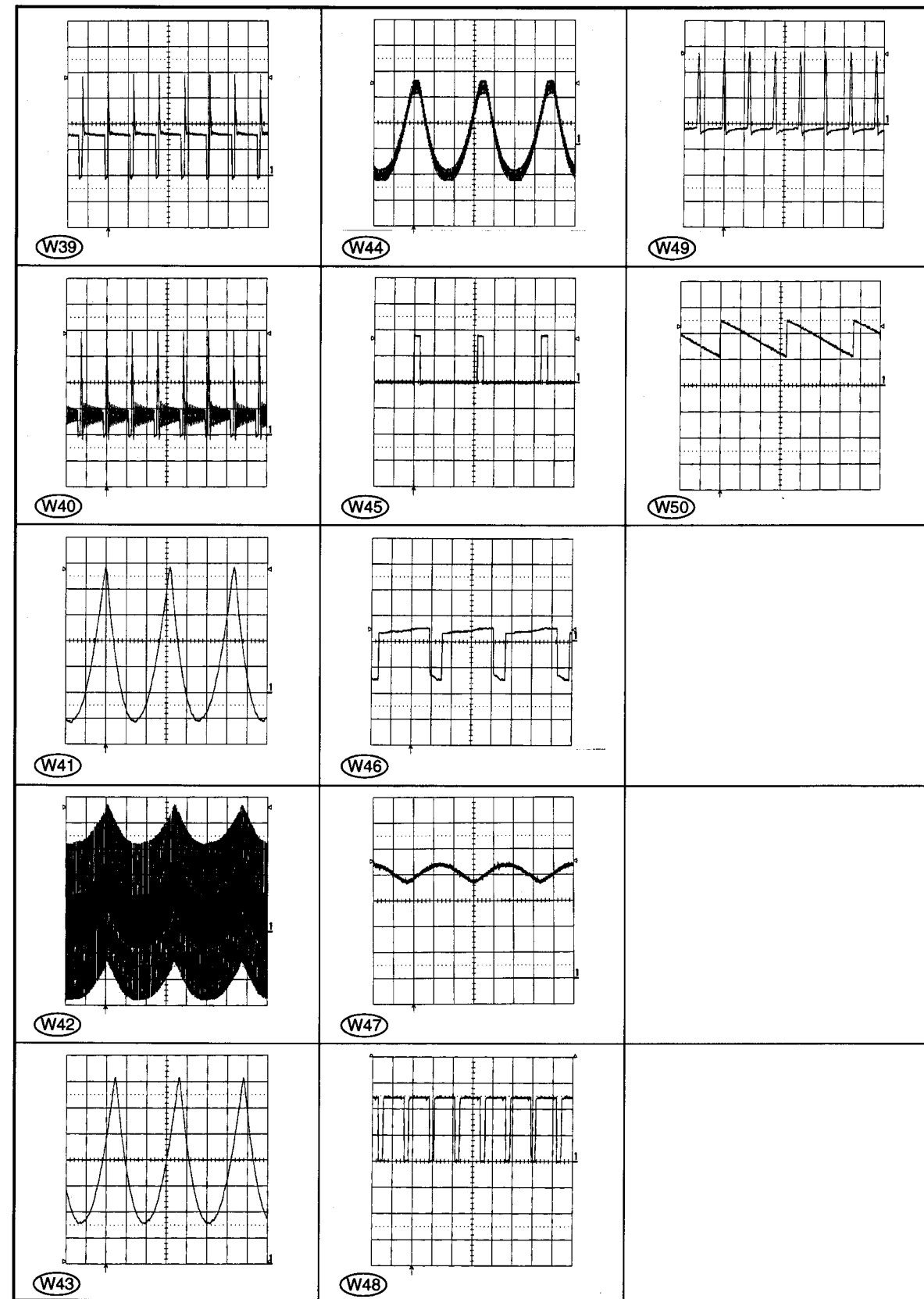
WARNING  
REPLACE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注
1. 抵抗値は $\Omega$ で表示されています。K=1,000  $\Omega$ 、M=1,000,000  $\Omega$ 。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。p=pF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5.  $\text{---}$  ..... 水平レート  
 $\text{---}$  ..... 垂直レート

警告  
特別な安全性を持つ保守部品は、回路図に△マークと網掛けで示してあります。  
この部品を交換するときは、網掛けの保守部品を使用してください。  
保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。



HV PWB (PWC-4130) WAVE FORM



VOLTAGE

CIRCUIT SYMBOL	VOLTAGE	CONDITION
IC2001		
PIN 1	1.5	
PIN 2	-	
PIN 3	0	
PIN 4	0.6	
PIN 5	0	
PIN 6	4.8	
PIN 7	0.1	
PIN 8	1.5	
PIN 9	12.9	
PIN 10	0	NORMAL CONDITOOON HV PROTECTOR ON
PIN 11	4.9	
IC 5005		
PIN 1	0	
PIN 2	4.6	
PIN 3	3.7	
PIN 4	2.4	
PIN 5	0.7	
PIN 6	2.3	
PIN 7	2.9	
PIN 8	5.2	
PIN 9	5.2	
PIN 10	1.2	
PIN 11	4.2	
PIN 12	0	
PIN 13	3.7	
PIN 14	0.4	
PIN 15	2.9	
PIN 16	0	
IC 5006		
PIN 1	0	
PIN 2	3.6	
PIN 3	3.5	
PIN 4	8.4	
PIN 5	3.8	
PIN 6	2.8	
PIN 7	7.1	
PIN 8	6	
PIN 9	5.9	
PIN 10	12	
PIN 11	2.5	
PIN 12	3.8	
PIN 13	1.2	
PIN 14	6.9	
PIN 15	3.8	
PIN 16	0.2	
PIN 17	0.7	
PIN 18	0	
PIN 19	3.7	
PIN 20	12	

CIRCUIT SYMBOL	VOLTAGE	CONDITION
T5002		
PIN 1	see W2	
PIN 2	162	
PIN 6	4.8	
PIN 7	0	
PIN 8	4.6	
PIN 10	19.2	
Q5001		
D	46.1	
S	218	
G	217	
Q5002		
E	9.7	
C	12	
B	9.7	
Q5003		
E	9.7	
C	0	
B	9.7	
Q5004		
E	0.4	
C	14.9	
B	0.7	
Q5005		
E	0	
C	0	
B	0.6	
Q5006		
E	156.5	
C	0	
B	156.3	
Q5007		
D	see W1	
S	0	
G	0.7	
Q5008		
E	0	
C	4.9	
B	0	
Q5009		
E	6.4	
C	14.8	
B	7	
Q50010		
E	-6.1	
C	-129.8	
B	-6.6	

# SCHEMATIC DIAGRAMS

## VOLTAGE

CIRCUIT SYMBOL	VOLTAGE	CONDITION
Q5011		
E	68.1	
C	156.4	
B	68.6	
Q5012		
E	68	
C	0	
B	67.2	
Q5013		
E	5.6	
C	67.3	
B	6.2	
Q5014		
E	-138.9	
C	144	
B	-138.2	
Q5015		
E	-138.9	
C	-144	
B	-138.2	
Q5017		
D	41.2	
S	41.2	
G	32.9	
Q5020		
E	0	
C	0	
B	0.7	
Q5024		
E	0	
C	3.8	
B	0	
Q5025		
D	see W1	
S	0	
G	0.7	
Q5027		
E	0.6	
C	14.9	
B	1	
Q5028		
E	0.6	
C	0	
B	1	

CIRCUIT SYMBOL	VOLTAGE	CONDITION
Q5029		
E	68	
C	151.2	
B	68	
Q5030		
E	68	
C	1.3	
B	68	
Q5031		
E	156.4	
C	156.4	
B	155.8	
Q5032		
E	134.4	
C	156.4	
B	135	
Q5033		
E	8	
C	113.8	
B	8.5	
Q5034		
E	8.5	
C	113.8	
B	9	
Q5035		
E	133.8	
C	156.4	
B	134.4	
Q5036		
E	0	
C	0	
B	0.7	
Q5037		
E	0	
C	0	
B	0.7	
Q5038		
E	0	
C	4.4	
B	0	
Q5039		
E	9.1	
C	0	
B	8.4	

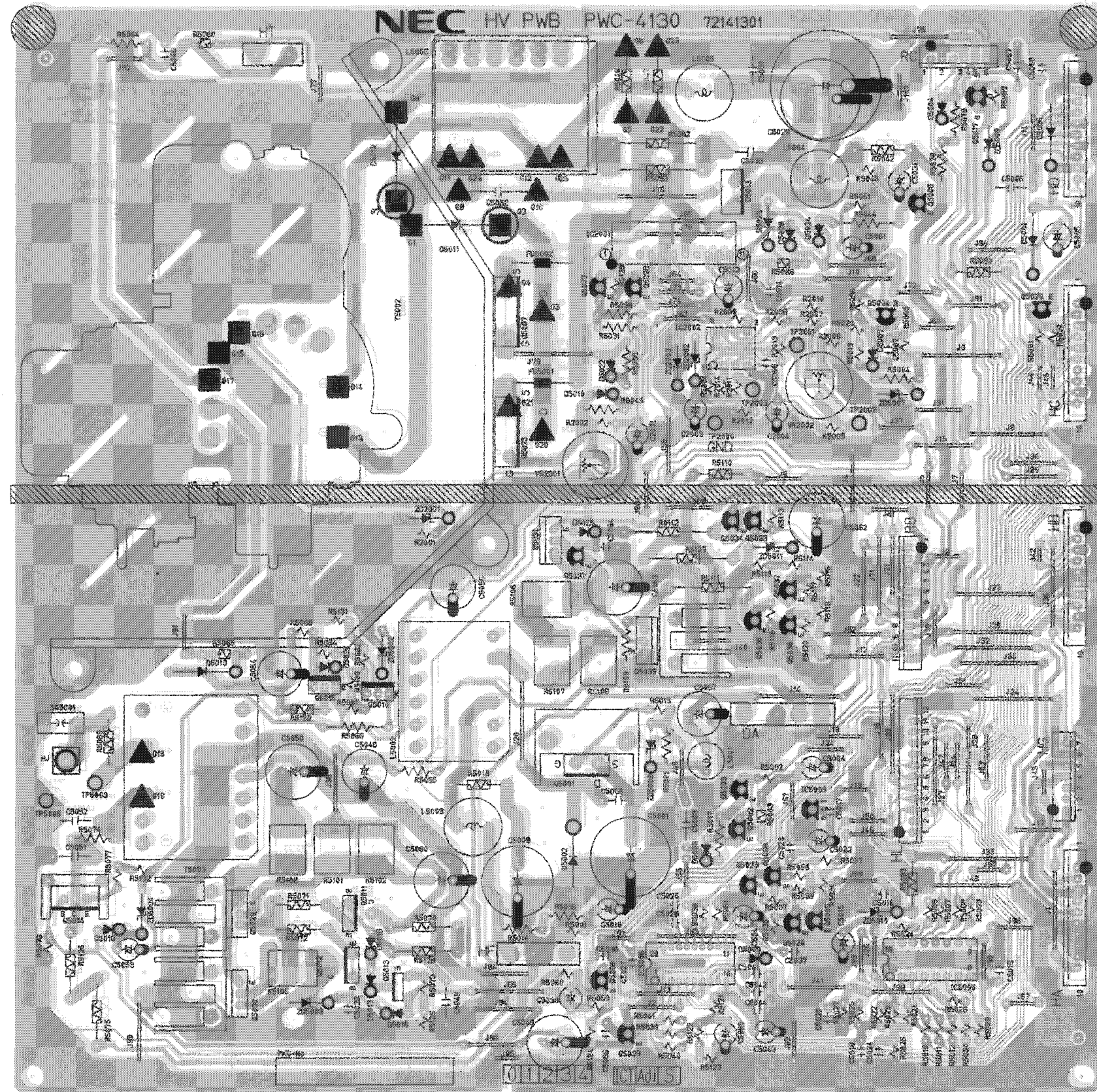
CIRCUIT SYMBOL	VOLTAGE	CONDITION
Q5040		
E	0	
C	11.2	
B	0	
Q5041		
E	0	
C	0.8	
B	0	
Q5042		
E	0	
C	0	
B	0.7	
Q5042B		
E	0	
C	0	
B	0.7	
Q5043		
D	41.1	
S	41.1	
G	32.5	
Q5043B		
D	41.1	
S	41.1	
G	32.5	
Q5044		
E	-138.4	
C	14	
B	-139.6	
Q5045		
E	14.8	
C	0	
B	12	
IC5003		
PIN 1	14.9	
PIN 2	0	
PIN 3	12	

CIRCUIT SYMBOL	VOLTAGE	CONDITION
CN HB		
PIN 1	0	
PIN 2	3.5	
PIN 3	0	
PIN 4	see W12	
PIN 5	0	
PIN 6	0	
PIN 7	3.4	
PIN 8	2.4	
PIN 9	0	
PIN 10	6.2	
CN HC		
PIN 1	0	
PIN 2	0	
PIN 3	0	
PIN 4	0	
PIN 5	3.7	
PIN 6	0.3	
PIN 7	2.4	fh: 15k~42KHz
	0	fh: 42k~95KHz
PIN 8	2.4	fh: 15k~66KHz
	0	fh: 66k~95KHz
PIN 9	2.2	fh: 15k~31KHz
	0	fh: 31k~95KHz
PIN 10	0.1	
CN HD		
PIN 1	0	
PIN 2	0	
PIN 3	0	
PIN 4	see W10	
PIN 5	6	
PIN 6	see W11	
PIN 7	2.5	
PIN 8	5.1	
PIN 9	5.1	
PIN 10	2.6	

CIRCUIT SYMBOL	VOLTAGE	CONDITION
CN HA		
PIN 1	0	
PIN 2	11.9	
PIN 3	14.8	
PIN 4	14.8	
PIN 5	26.8	
PIN 6	0	
PIN 7	0	
PIN 8	0	
PIN 9	0	
PIN 10	156.4	
CN RB		
PIN 1	219	
PIN 2	0	
PIN 3	139.5	fh: 15k~39KHz or H-CONT MODE1
	110.0	fh: 40k~95KHz or H-CONT MODE2
PIN 4	139.5	fh: 15k~39KHz or H-CONT MODE1
	110.0	fh: 40k~95KHz or H-CONT MODE2
PIN 5	0	
PIN 6	-139.6	
PIN 7	0	
PIN 8	26.8	
PIN 9	14.9	
PIN 10	0	fh: 15k~39KHz or H-CONT MODE1
	3.0	fh: 40k~95KHz or H-CONT MODE2
PIN 11	6.2	
CN RC		
PIN 1	0.7	
PIN 2	0	
PIN 3	0	
PIN 4	0	
PIN 5	12.3	
PIN 6	0	
CN HL		
PIN 1	5.9	
PIN 2	0	
PIN 3	0	
PIN 4	0.1	
PIN 5	0	
PIN 6	0.4	
PIN 7	3.7	
PIN 8	0	
PIN 9	2.5	
PIN 10	0.7	
PIN 11	3.7	
PIN 12	0	

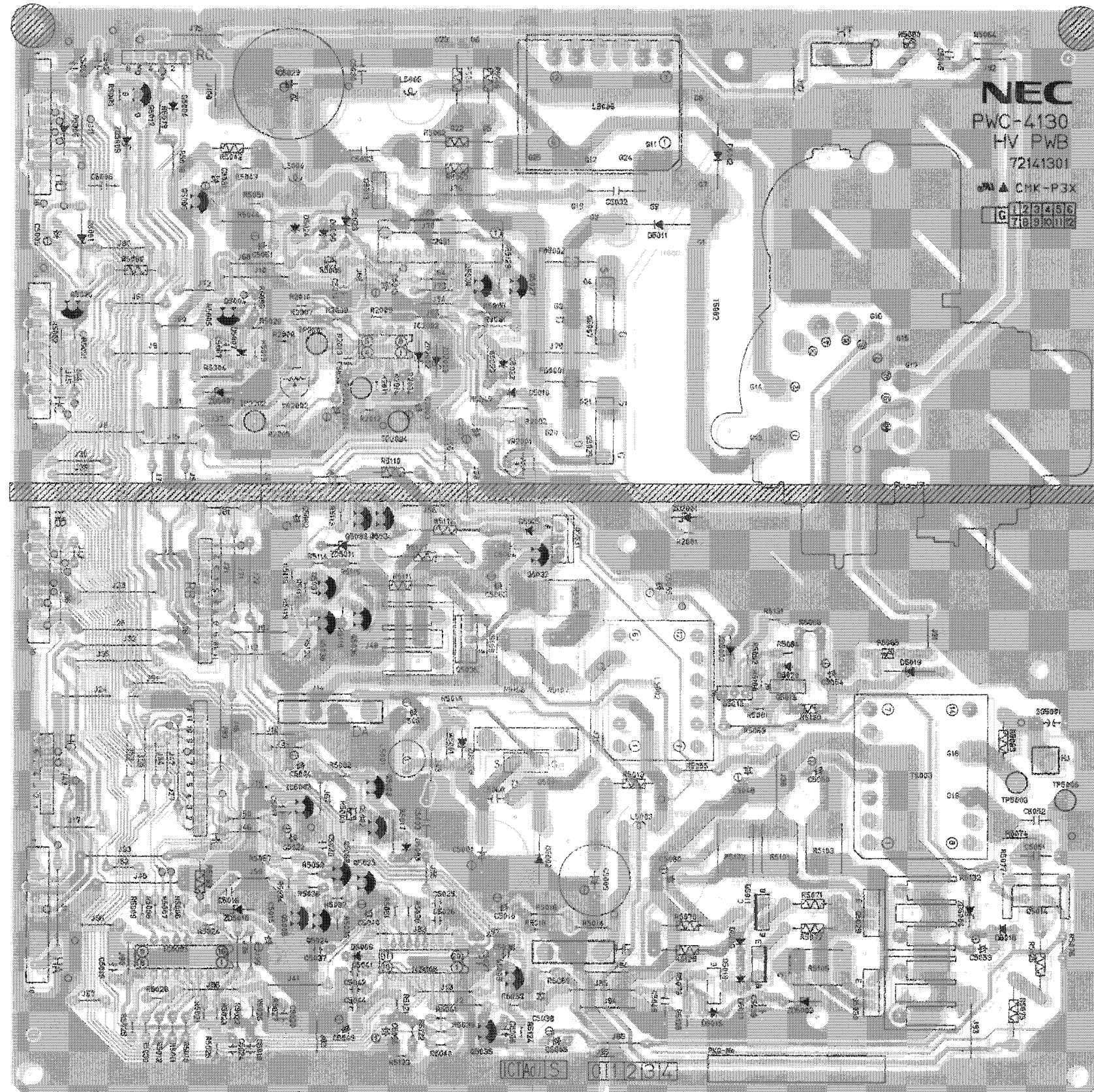
CIRCUIT SYMBOL	VOLTAGE	CONDITION
CN HG		
PIN 1	156.5	
PIN 2	0	
PIN 3	0	
PIN 4	14.9	
PIN 5	11.9	
PIN 6	0	
PIN 7	2.5	
CN DA		
PIN 1	218	
PIN 2	0	
PIN 3	156.5	
PIN 4	0	
CN HF		
PIN 1	0	
PIN 2	0	
PIN 3	40.4~112.2	fh: 15k~65KHz XM-2960
	40.4~166.2	fh: 15k~65KHz XP-2990

HV PWB (PWC-4130)  
PARTS SIDE

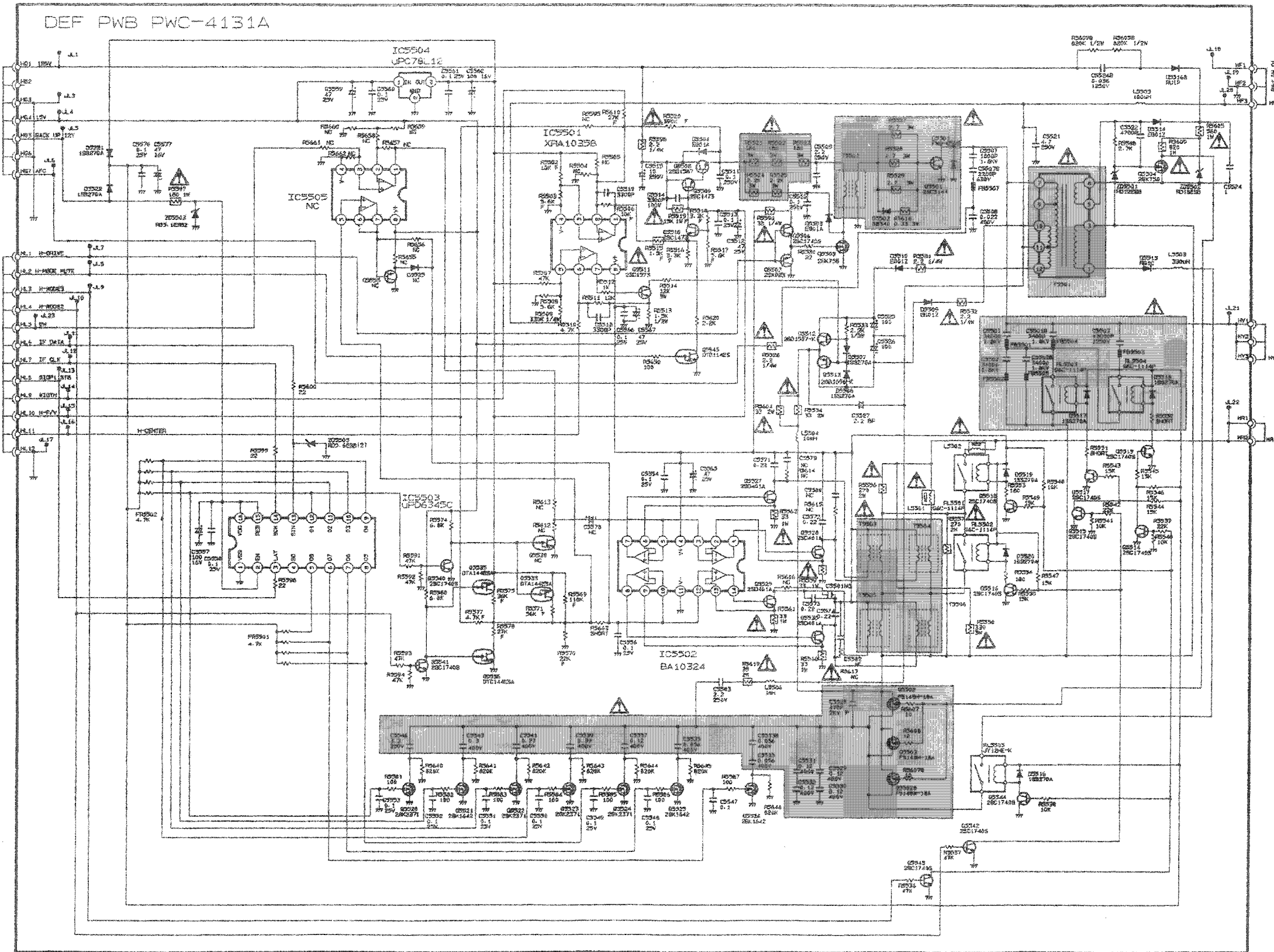


SCHEMATIC DIAGRAMS

HV PWB (PWC-4130)  
SOLDER SIDE



DEF PWB (PWC-4131A)



**NOTES**

1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000 $\Omega$  M=1,000,000 $\Omega$ .
2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=pF.
4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
5.  $\text{\textcircled{H}}$  ..... HORIZONTAL RATE.  $\text{\textcircled{V}}$  ..... VERTICAL RATE.

**WARNING**  
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A SHADING ON THE SCHEMATICS.  
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

**注意**

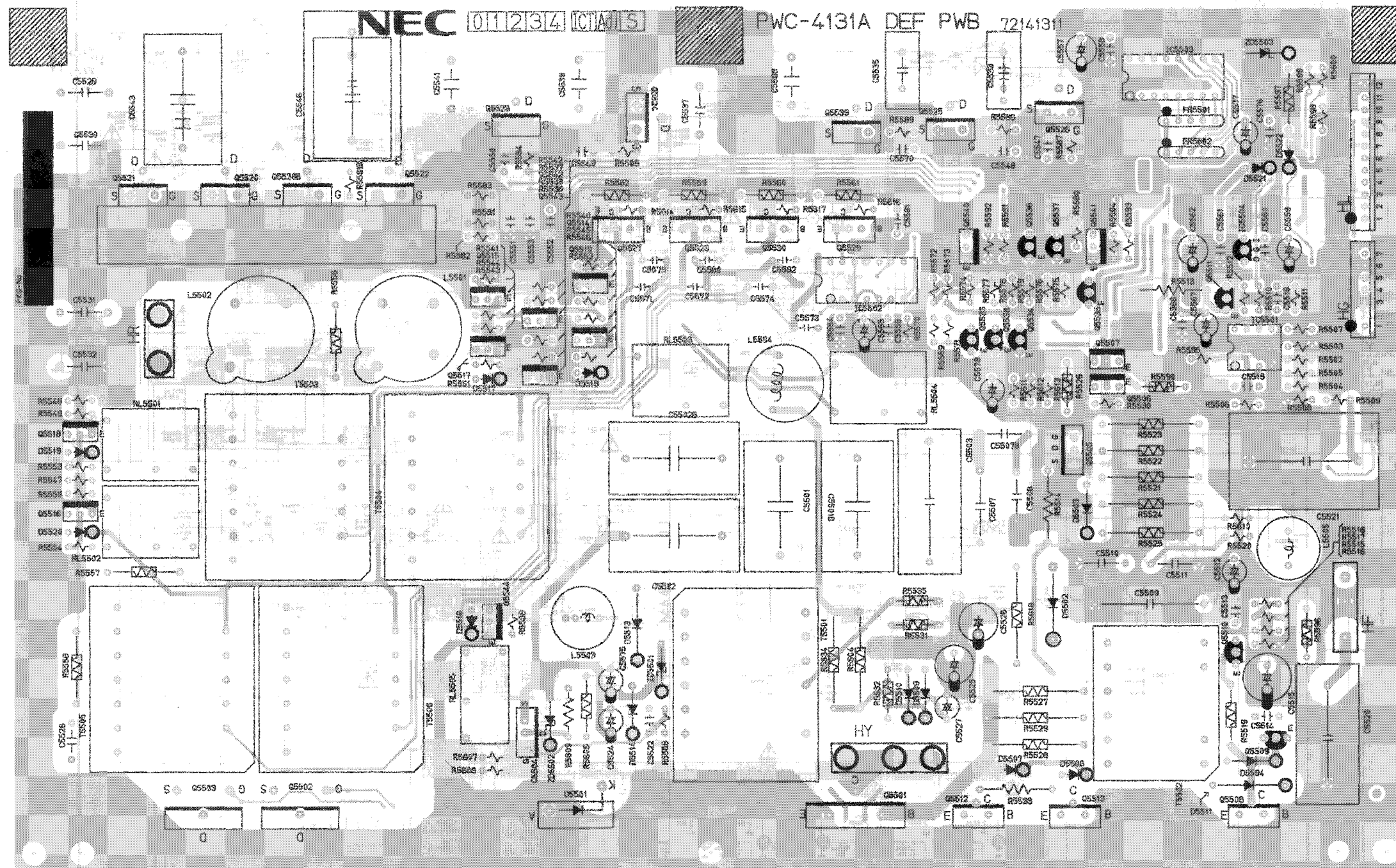
1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ 。
2. 特別な表示のない限り、抵抗はすべて1/10Wです。
3. コンデンサの容量の単位は、特別な記載のない限り、 $\mu$ Fです。p=pF。
4. 特別な表示のない限り、コンデンサはすべて50Vです。
5.  $\text{\textcircled{H}}$  ..... 水平レート  $\text{\textcircled{V}}$  ..... 垂直レート

**警告**  
特別な安全性を持つ保守部品は、回路図にハチマークと網掛けで示してあります。  
この部品を交換するときは、規定の保守部品を使用してください。  
保守作業が適切でないために安全性を低下させてしまうことのないよう、十分に注意してください。

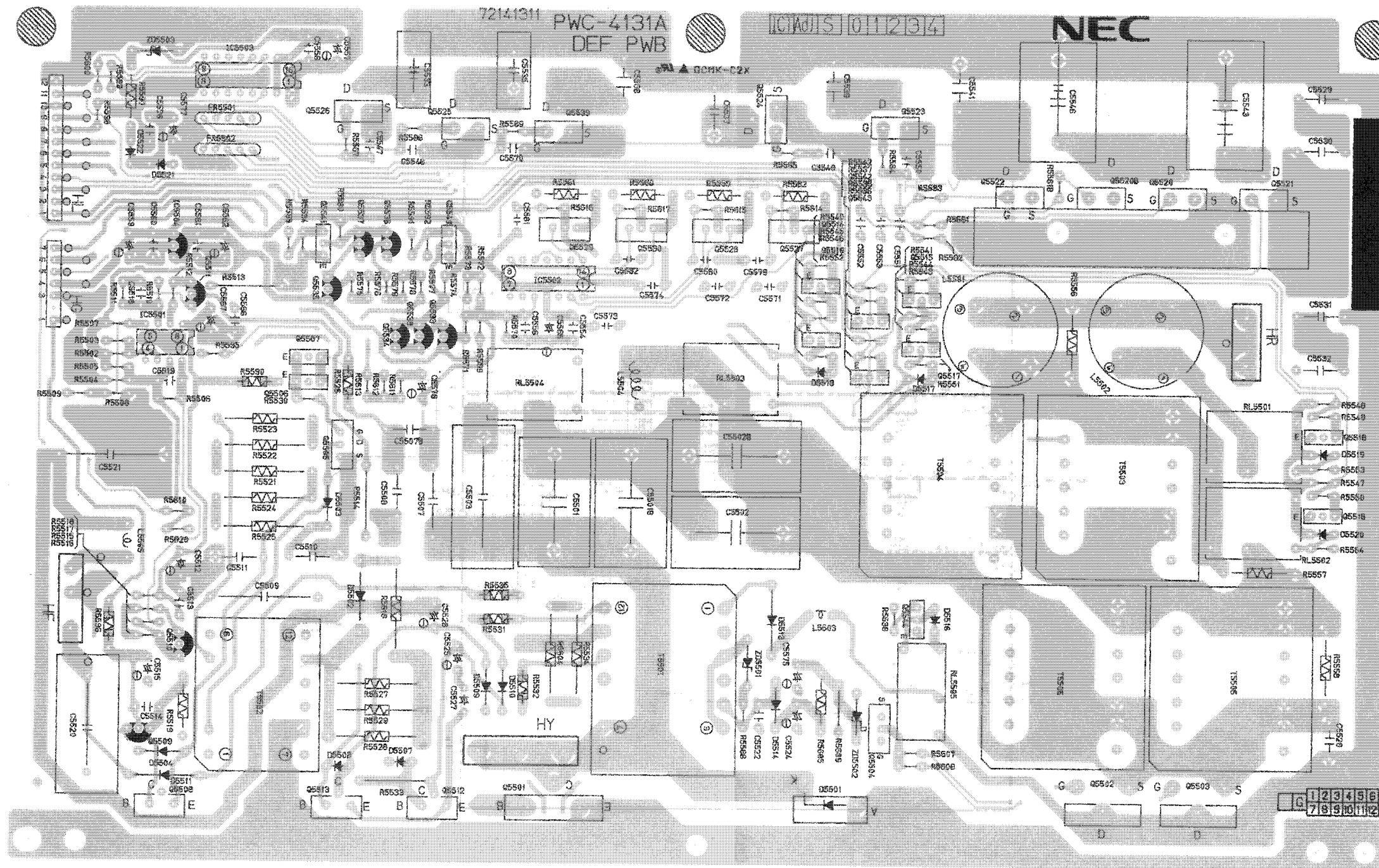
**SCHEMATIC DIAGRAMS**

**DEF PWB (PWC-4131A)**

**PARTS SIDE**



DEF PWB (PWC-4131A)  
SOLDER SIDE

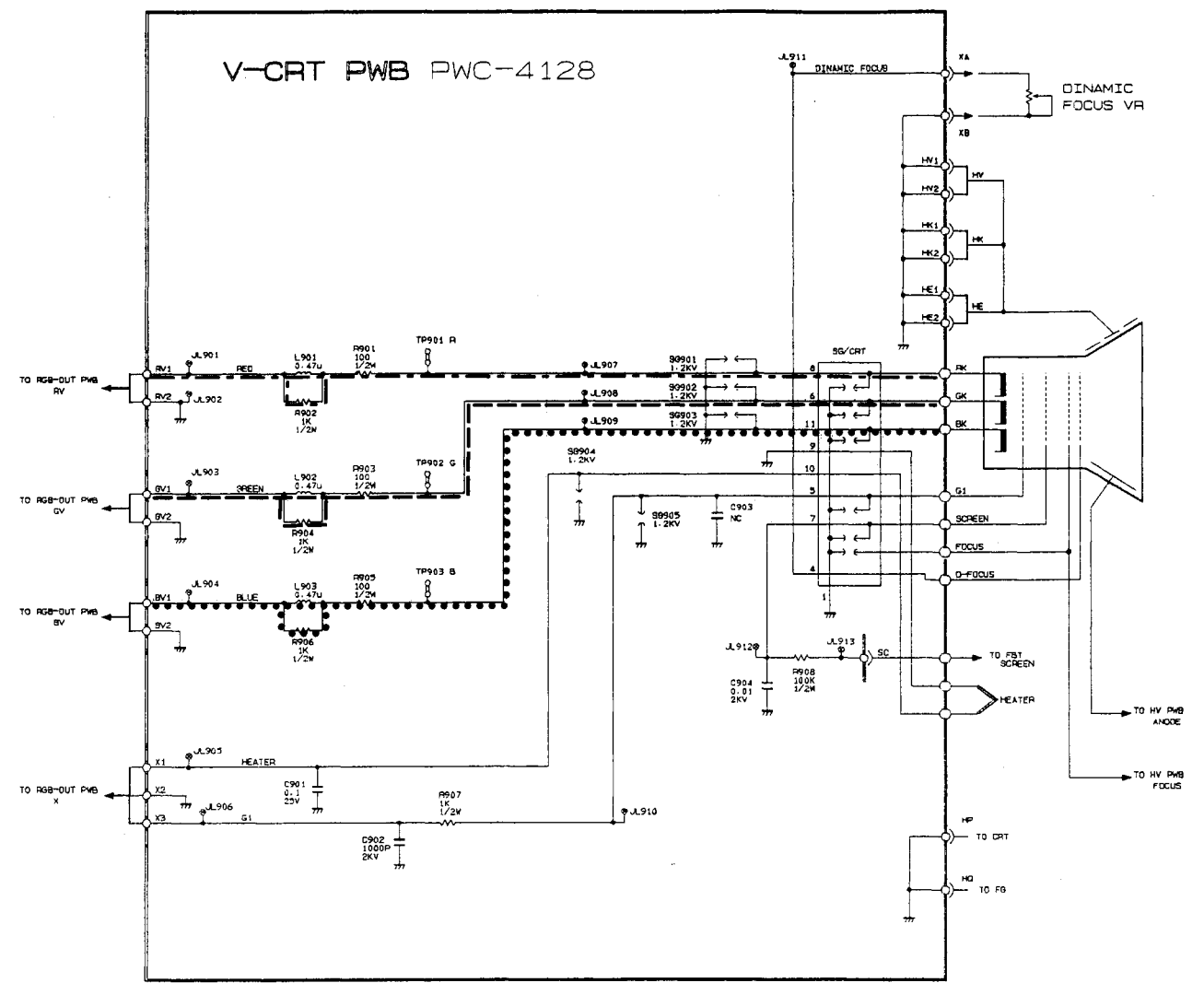


SCHEMATIC DIAGRAMS

V-CRT PWB (PWC-4128)

	1	2	3	4	5	6	7	8
--	---	---	---	---	---	---	---	---

A								
B								
C								
D								
E								
F								



- NOTES**
1. RESISTOR VALUES ARE IN  $\Omega$  (OHM), K=1,000 $\Omega$ , M=1,000,000 $\Omega$ .
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF.
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5. Ⓜ ..... HORIZONTAL RATE. Ⓜ ..... VERTICAL RATE.

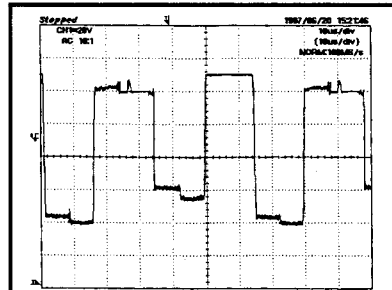
**WARNING**  
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 REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.  
 DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

- 注意**
1. 抵抗値は $\Omega$ で表示されています。K=1,000 $\Omega$ 、M=1,000,000 $\Omega$ 。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限り $\mu$ Fです。p=PF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5. Ⓜ ..... 水平レート Ⓜ ..... 垂直レート

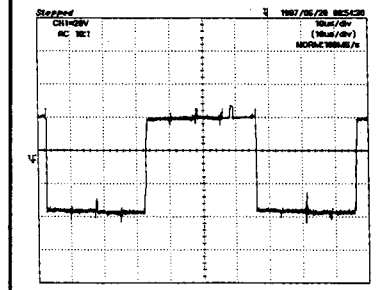
**警告**  
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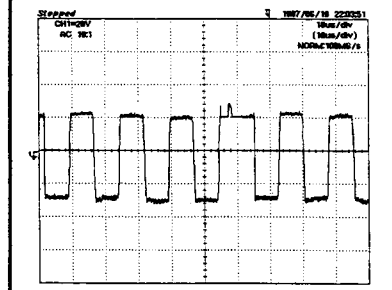
V-CRT PWB (PWC-4128) WAVE FORM



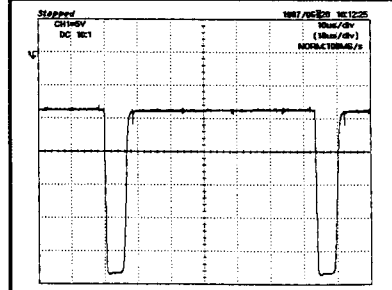
W51



W52



W53



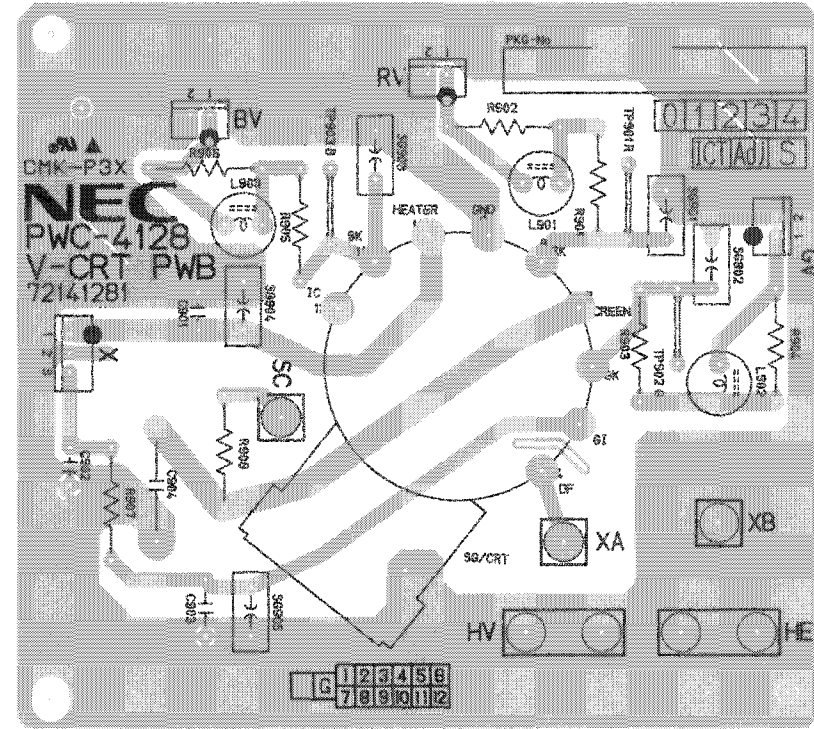
W54

VOLTAGE

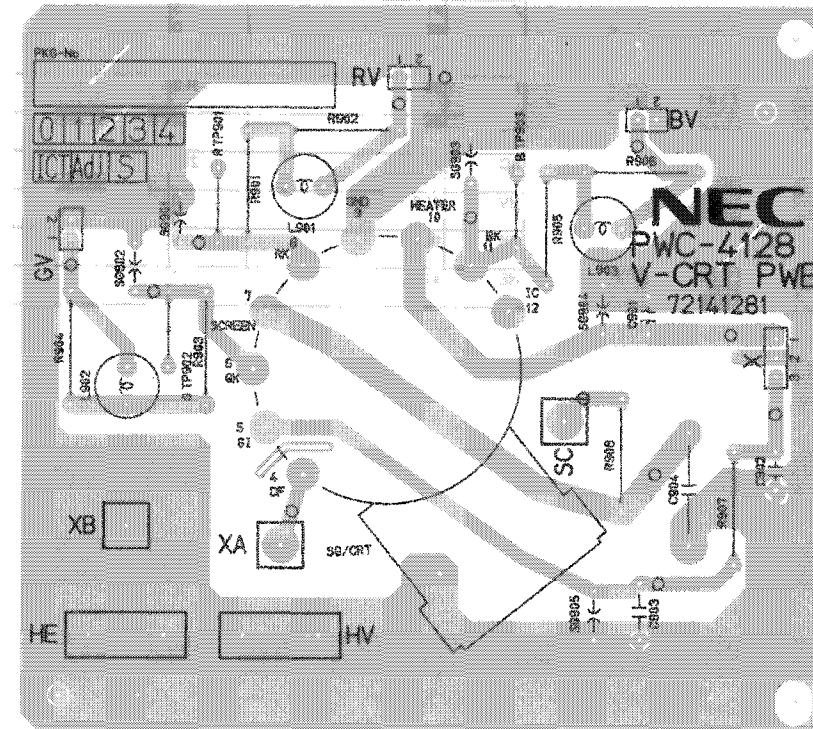
CIRCUIT	SYMBOL	VOLTAGE	CONDITION
RV	#1	128.7	
	#2	0	
GV	#1	126.6	
	#2	0	
BV	#1	128.2	
	#2	0	
X	#1	6	
	#2	0	
	#3	10.2	
XA	#1	184.5	
XB	#1	0	
SC	#1	254	
HV	#1.2	0	
HK	#1.2	0	
HE	#1.2	0	

**SCHEMATIC DIAGRAMS**

**V-CRT PWB (PWC-4128)  
PARTS SIDE**



**SOLDER SIDE**



SW-LED PWB (PWC-4131B)

1 2 3 4 5 6 7 8

A

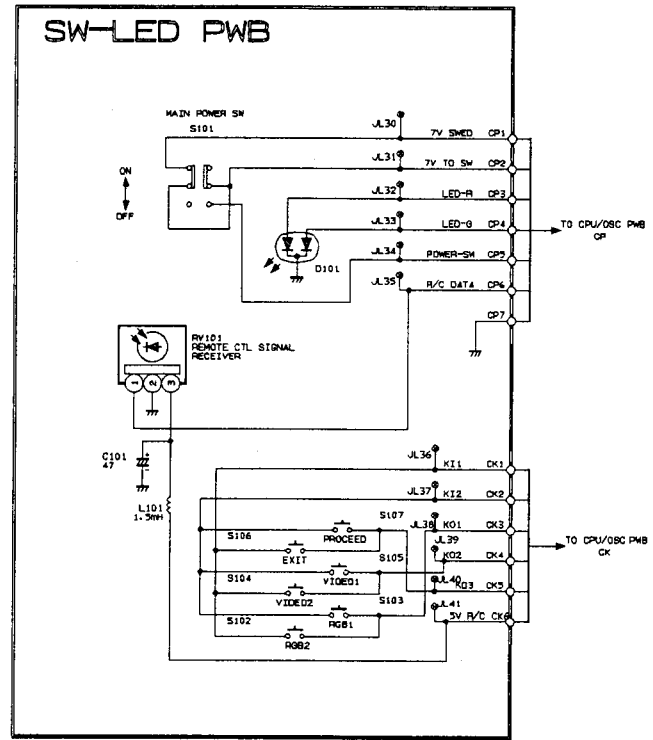
B

C

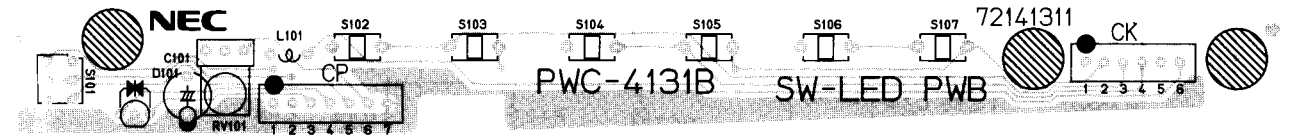
D

E

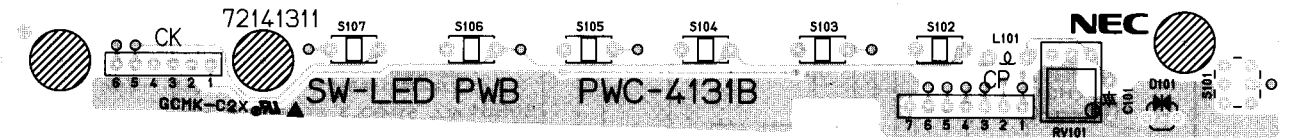
F



SW-LED PWB (PWC-4131B)  
PARTS SIDE



SOLDER SIDE



- 注意**
1. 抵抗値はΩで表示されています。K=1,000Ω、M=1,000,000Ω。
  2. 特別な表示のない限り、抵抗はすべて1/10Wです。
  3. コンデンサの容量の単位は、特別な記載のない限りμです。p=pF。
  4. 特別な表示のない限り、コンデンサはすべて定格50Vです。
  5. ⊕ ..... 水平レート      ⊙ ..... 垂直レート

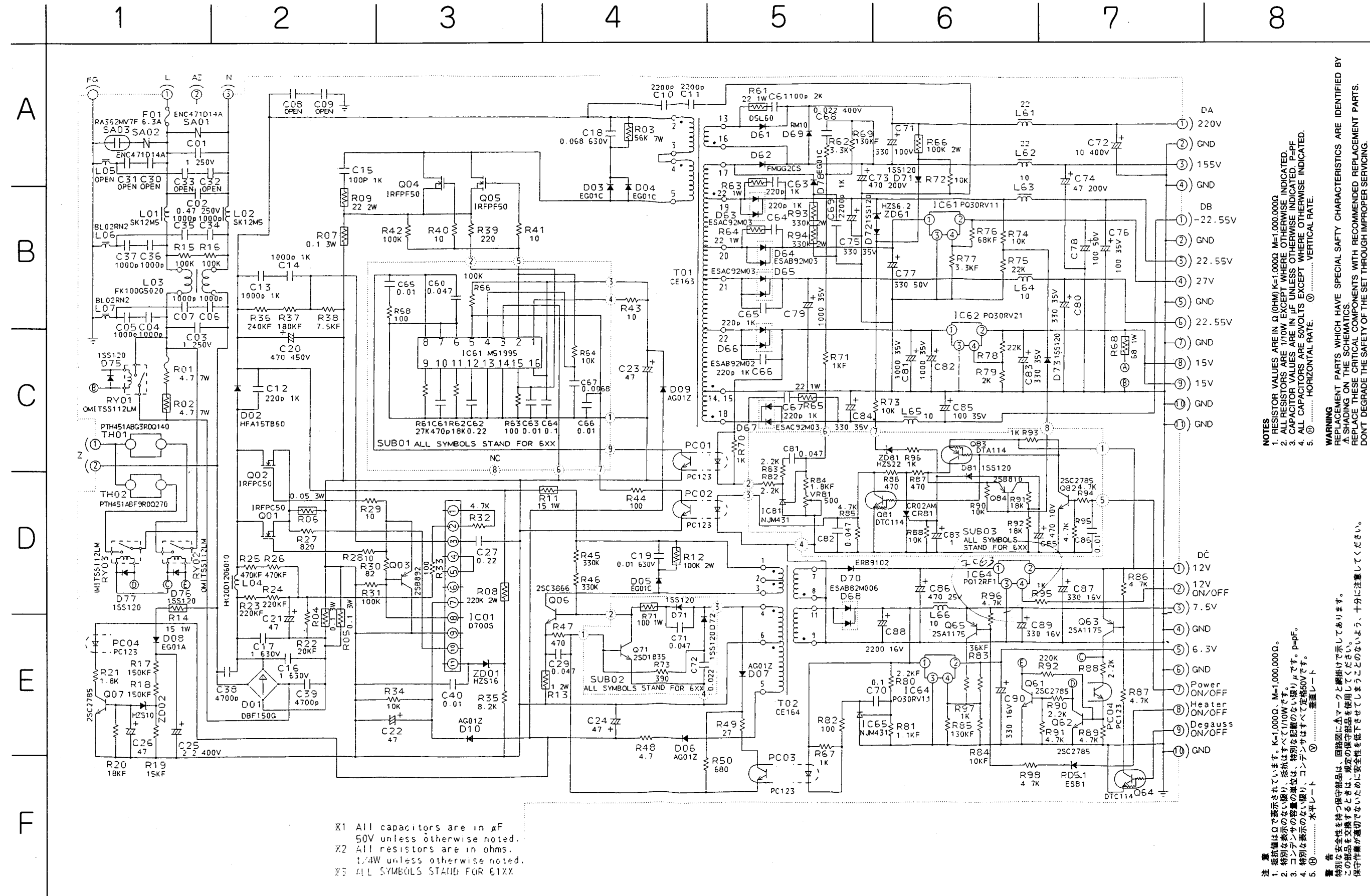
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- NOTES**
1. RESISTOR VALUES ARE IN Ω (OHM) K=1,000Ω M=1,000,000Ω.
  2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.
  3. CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE INDICATED. P=PF.
  4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
  5. ⊕ ..... HORIZONTAL RATE.      ⊙ ..... VERTICAL RATE.

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**SCHEMATIC DIAGRAMS**

**POWER SUPPLY UNIT**



X1 All capacitors are in  $\mu$ F  
50V unless otherwise noted.  
X2 All resistors are in ohms.  
1/4W unless otherwise noted.  
X3 ALL SYMBOLS STAND FOR 61XX

**NOTES**  
 1. RESISTOR VALUES ARE IN  $\Omega$  (OHM) K=1,000Q M=1,000,000Q.  
 2. ALL RESISTORS ARE 1/10W EXCEPT WHERE OTHERWISE INDICATED.  
 3. CAPACITOR VALUES ARE IN  $\mu$ F UNLESS OTHERWISE INDICATED. P=PF  
 4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.  
 5.  $\text{\textcircled{H}}$  HORIZONTAL RATE.  $\text{\textcircled{V}}$  VERTICAL RATE.

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 3. この部品を交換するときには、規定の保守部品の単位は、特別な記載のない限り、 $\mu$ Fです。P=PF。  
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